

PRA NOTES 18:

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RRA Notes

Number 18

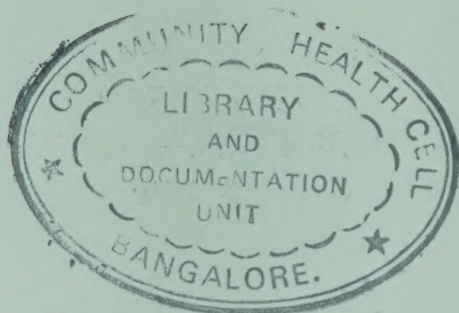
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THE RRA NOTES SERIES

The principal aim of this series is to share current experiences and methods among practitioners of RRA and PRA throughout the world. The Sustainable Agriculture Programme of IIED publishes these Notes containing articles on any topic related to Rapid Rural Appraisal. The name of RRA encompasses a wide range of approaches; and there are strong conceptual and methodological similarities between Participatory Rural Appraisal (PRA), Participatory Learning Methods (PALM), Agroecosystem Analysis (AEA), Farming Systems Research, Rapid Assessment Procedures (RAP), Participatory Action Research (PAR), Rapid Rural Systems Analysis (RRSA), Méthode Accélérée de Recherche Participative (MARPP) and many others.

The series is to be kept informal. This is intentional, so as to avoid the commonly encountered delays between practice and the sharing of knowledge through publication. We would thus like to hear of recent experiences and current thinking. In particular, we are seeking short and honest accounts of experiences in the field or workshops; what worked and what did not; dilemmas and successes. They should be legible with clear drawings. Please do not worry about the style of the text. The editors will take care of this. In addition, please send details of any training manuals, papers, reports or articles which we will list.

RRA Notes is currently funded by the Swedish International Development Authority and the Ford Foundation. Current issues are distributed free of charge to over 2000 individuals and institutions in 65 countries. Backcopies are also distributed, but in view of the growth in demand for an ever lengthening list of these, it has been necessary to recover administrative and reprinting costs by charging for backcopies. (See *Contents of RRA Notes Backcopies* at the end of this issue for further details).

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EDITORIAL

This issue reflects again the rich diversity of both thoughtful and practical contributions from around the world. To start off, just a reminder that *RRA Notes 19* will focus on training issues. We welcome any contributions, preferably short experiences or reflections. In the near future we hope to pull together two further focus issues:

- PRA and gender
- PRA and livestock

We also welcome any experiences relating to these themes.

This issue starts with a valuable methodological contribution on genealogies, which are well-established in anthropology. David Mosse and Mona Mehta draw on several experiences in India to describe how discussions around kinship "mapping" can help understand local social identities in a community. Such genealogies help to *"overcome the statistical fiction that communities are composed of assemblies of independent households"*.

Gerry Gill provides a light look at ethnocentric biases in research methods, focusing on pie diagrams. He argues that *"the concept of a pie or cake cut into wedge-shaped servings is quite alien"* and describes an approach to measurement that is both indigenous, easier to understand and more accurate than pie diagrams. We hope that the underlying assumptions in other methods will continue to be discussed in later articles.

We move on to case studies with a reflection on the advantages and disadvantages of working in larger and smaller villages. As N. Narayanasamy and M.P. Boraian say *"Big is a bother... (and) small is smooth"*, and conclude that, in general, smaller villages are easier to work in.

However, we are not always in a position to work only at the small village level. To encourage us, we take a look at three case studies, each of which describe work at different levels, from the village level to the national level. Huub Gaymans and Yanti Maskoen provide a look at the Indonesian context in their discussion of a *community self-survey* on water sanitation activities. Community members used questionnaires and mapping as the basis for the planning, improvement and construction of facilities. The authors say the process must go beyond data collection by the community, to giving *"responsibility to use the results of the study for planning themselves the desired improvements in their environment"*.

Tony Dunn provides insights into an ongoing national experience with the use of RRA in Landcare in Australia. This article focuses on how a group of researchers and students got started with the methodology and how it was used in two communities. Dunn reflects on the institutional barriers to an RRA approach and concludes that *"RRA principles and methodologies are transferable [to Australia] because they include an appreciation of the knowledge and expertise of farming people"*.

Margie Buchanan-Smith and her colleagues in Chad used the RRA principles at the national scale *"to try and understand how people perceive and prioritise their food security problems"*. This is a rare case study on how the principles of RRA can be used beyond the micro at the meso- and even macro-level. They have learned much from this process and conclude that *"only this kind of informal survey approach could have enabled people's views*

to be incorporated into a national level planning process".

Following the case studies, we focus on wealth ranking¹. Carter and his colleagues describe their use of wealth ranking in Zimbabwe as the basis for understanding diversity among farmers regarding soil fertility management. While the stratification provided a useful basis for further, the *"differences in wealth did not explain all the differences in practices which we observed amongst the households interviewed"*. The more detailed interviews *"raised a set of much more informed questions about soil fertility management that now need to be pursued"*.

G. O'G. Sharrock, K. Waldie and Y. Joshi used wealth ranking in Nepal to understand better the diversity of agricultural households and to help target research efforts more appropriately. They focus on the methodological dilemmas raised after the wealth ranking is done: *"the real expertise is needed at the stages of data collation, interpretation and application"*. The danger lies in seeing the method as a simple tool and an end in itself. They urge those contributing to the *RRA Notes* to write about the uses to which the information resulting from the use of RRA/PRA was put.

We welcome another contribution from Ly Tung and F. Baliña who have continued using wealth ranking at FARMI in the Philippines. They have been trying group interviews instead of individual key informants, and compare the two approaches in their article.

Our last contribution from the field is an account of matrix ranking from Tamil Nadu, India. With a group of villagers, M. Manoharan, K. Velayudham and N. Shunmugavalli conducted two ranking exercises on rice and banana to understand better what the varietal characteristics should be that they, as plant breeders, should focus on.

This time, *Tips for Trainers* might give you ideas for the beginning of a training. *"Symbolic Introduction"* describes one easy way to break the ice. *Endnotes* once again contains information about some of the many documents we receive that are too lengthy to reproduce as *RRA Notes* and yet deserve more exposure. Please do let us know about any documents that you would like to announce in the *Endnotes*.

Irene Guijt

¹ See also *RRA Notes 15. Special Issue on Wealth Ranking* for further articles and discussions.

1. GENEALOGIES AS A METHOD OF SOCIAL MAPPING IN PRA

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Introduction

Genealogies have long been an important instrument of 'social mapping' in the anthropologists's tool kit. Not only do genealogies provide a map of local communities in kinship terms, but anthropologists have used genealogies to explore patterns of inheritance, marriage alliance, social hierarchy and reciprocity, and in other ways to develop an understanding of local communities. Genealogies provide a means by which analysts and development workers can place individuals socially. Moreover, the genealogy involves a type of knowledge which is often central to the social reckoning of members of the community themselves.

The ODA/Kribhco Rainfed Farming Project has recently begun work in the Bhil tribal districts of Madhya Pradesh, Gujarat and Rajasthan, in India. As part of a series of introductory PRA exercises in selected villages in this area, we experimented with the use of genealogies and kinship mapping. There are several reasons why genealogies are a particularly useful tool for rural appraisal in this area. This note suggests some of the key uses of genealogies and makes brief comment on the method itself.

The Kribhco Project

The settlement pattern in the hill tribal area of the Kribhco project is highly dispersed and non-nucleated. The unit of territorial organisation is the village, but the village does not have a distinct physical identity. Rather, each homestead is situated in its own cultivated fields. Villages are often composed of two or more hamlets (*phaliyas*) which are commonly the units within which the voluntary exchange of goods and labour takes place. A village is typically composed of a single lineage, and the hamlets are composed of units of this lineage. Indeed, the practice of village exogamy (marriage outside the village) expresses the tacit view of the village as a large unilineal (single line) descent group. This gives the village a strong corporate identity.

The village in which we conducted an introductory PRA, Chatra Kuta (Banswara Dt., Rajasthan) typifies this pattern of kinship and territorial organisation. With a group of 6-7 older men it was possible to compile a genealogy covering the entire village of 84 households. The exercise took about three hours. The villagers had already prepared a village map using coloured (*rangoli*) powders and had marked each house with a stone.

Randomly selecting a household from this map as a starting point, we asked for the names of the man's father, fathers' father etc., going back as far as possible, and, as it happened to the founding members of the village. We then worked 'back' towards the present identifying, in turn, brothers and sons in each generation. In fact, we later discovered that it was much simpler to start with individuals who were participating in the exercise and use their immediate families as the point at which to start the genealogy exercise.

As it turned out the village is composed almost entirely of two lineages. The principle lineage (Figure 1) starts with the original settler of the village, a man called Nagji four/five generations back. His elder brother Kalju founded a neighbouring village. Nagji had three sons, and as the charts show, the number of descendants from each of these is very different. The second lineage (Figure 2) has a depth of three/four generations. Members of this kin group, who are unrelated to the principle lineage, immigrated into the village more recently.

After completing the genealogy for the main lineages in outline, individual households were circled and given a number, to correspond with a number on the village map. Members of the same household were circled on the genealogy (see Figures). This circling also distinguished those who shared the same house but formed a separate family unit in the sense of having a separate *chula*, or cooking stove. In this way the physical and kinship maps could be related to each other. Among other things, this immediately revealed the extent to which, in this particular village, neighbourhood groups were in fact composed of a single lineage.

Having completed the genealogy of the principle patrilineages, we asked about other families, in particular those houses on the map which had not yet been identified as belonging to either of the main lineages. Only at this point, interestingly, were families which did not fall clearly within the main patrilineages mentioned. These included: families descending from uxorilocal households, that is from the sisters of men of the patrilineage who had remained in the village and married men from other clans/villagers who had been given land and had settled in the village (Figure 3); families of recent settlers in the village who have been given land by members of the main lineage; and the family of the *Dholis* (traditionally an inferior basket making and musician *Bhil* clan).

Observations on the Process

Villagers - in this case men - appeared to have a clear model of the village in kinship terms. Information on the name and relationships of individuals from 4-5 generations ago was provided without either hesitation or disagreement from among those participating in the exercise.

Obviously, individuals have greater knowledge of their own immediate families, but what was remarkable was the amount and precision of information which the men had of all parts of the village/lineage. The exceptions to this are themselves striking. The only genealogy in which there were significant gaps was the one of the smaller 'immigrant' lineage who were not represented in the interview group. A young man from this lineage very quickly corrected errors and omissions subsequently.

Figure 1. Genealogy of the major lineage, descendants of the founder of Chatra Kuta village, Banswara District, Rajasthan, India. (The Editors regret the poor quality reproduction of this Figure, which has had to be very considerably reduced in size).

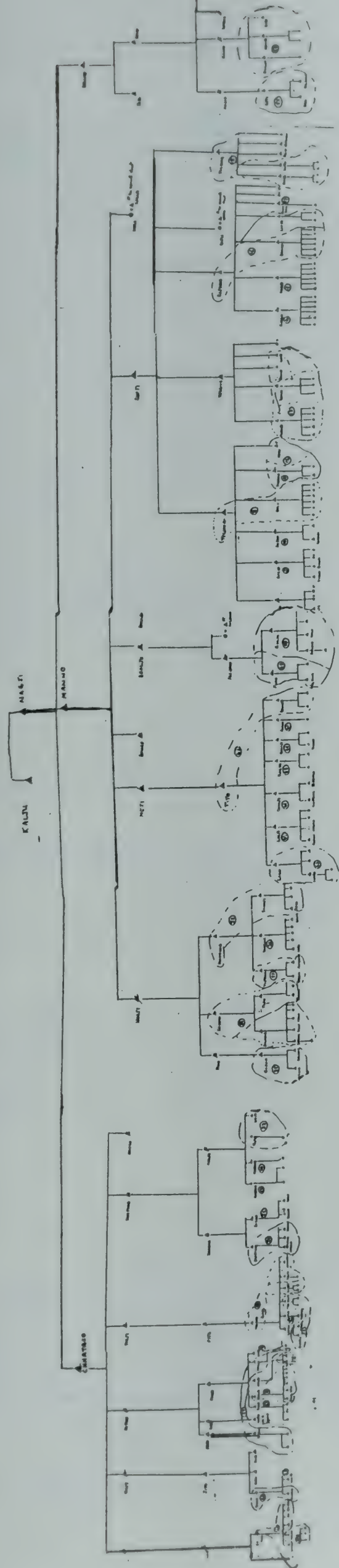


Figure 2. Genealogy of descendents of a later settler in the village

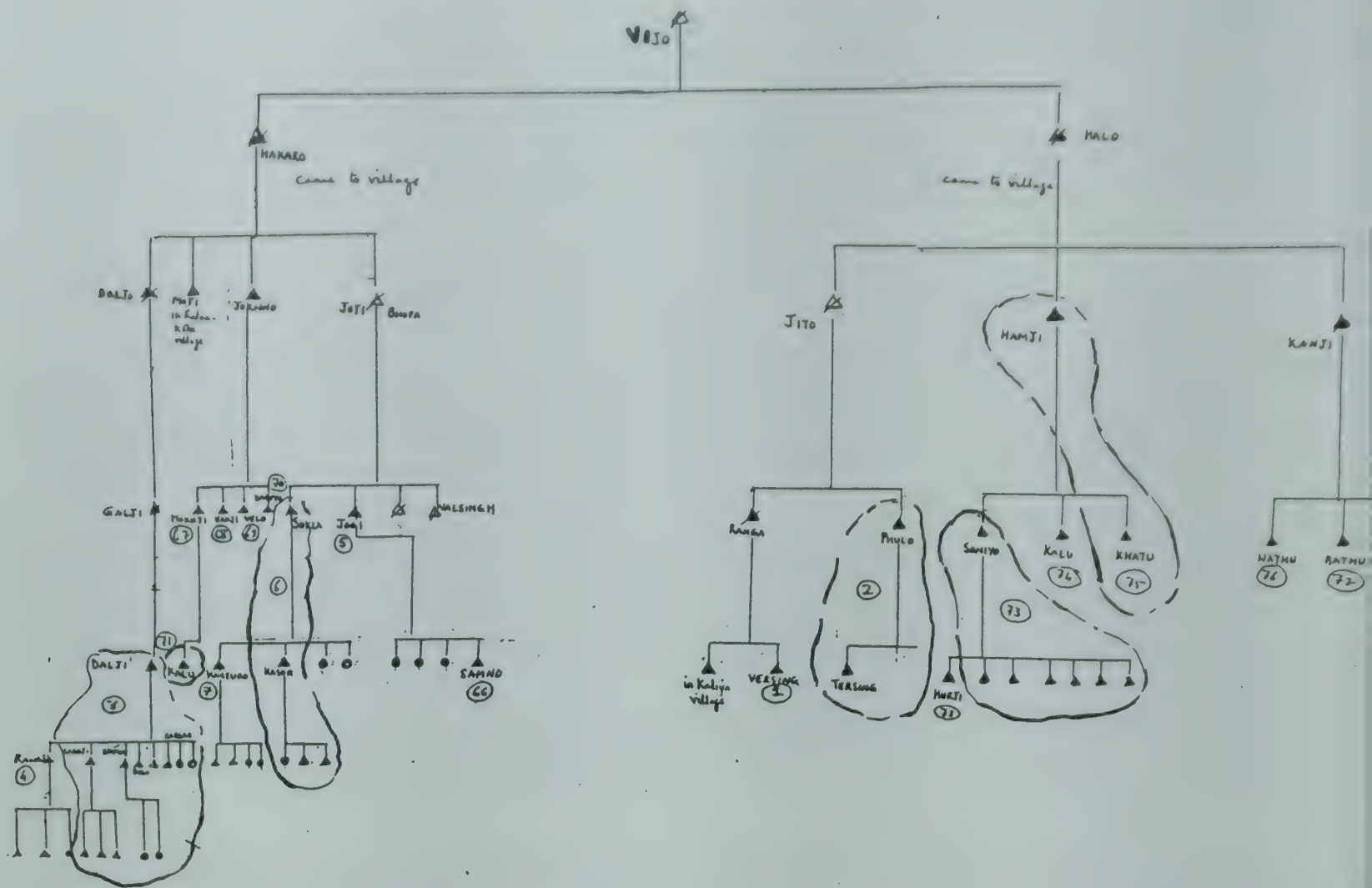
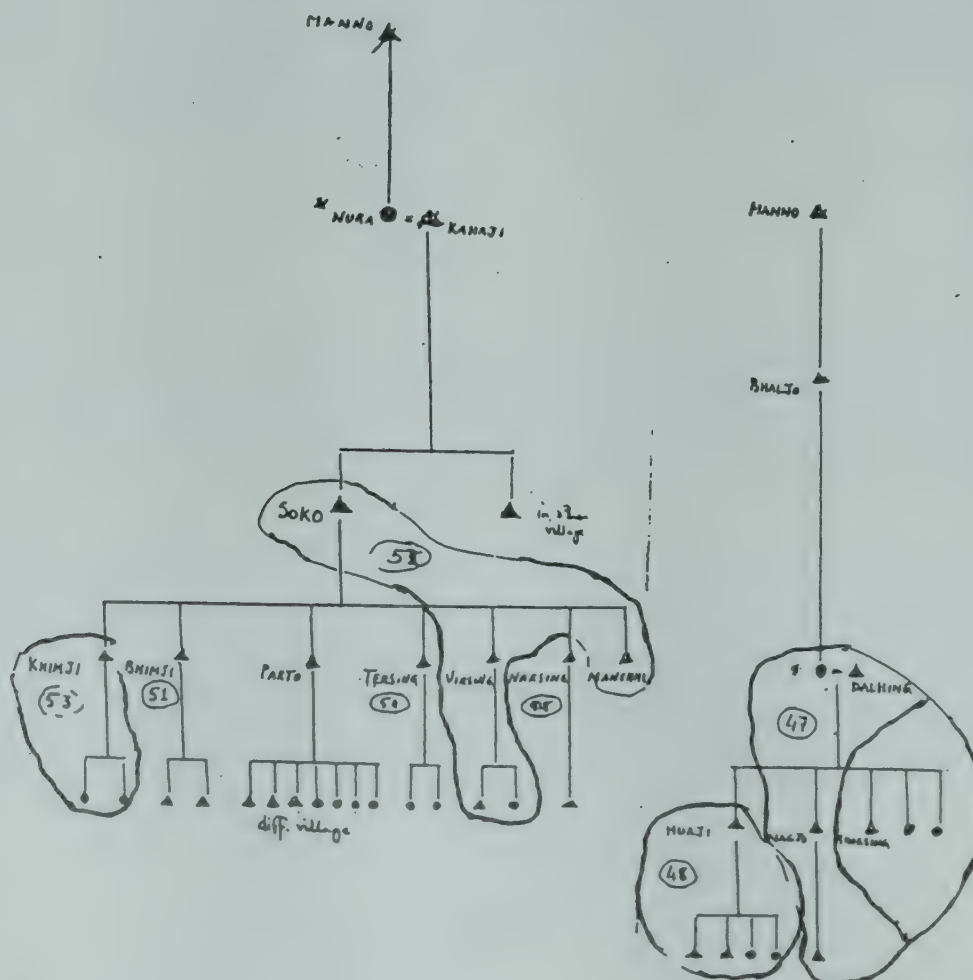


Figure 3. Families descended from women who remained in the village after marriage



As with village mapping, the way in which the exercise takes place, the omissions and afterthoughts, and the different perspectives of those from different social positions, provide important social information.

The first genealogy which was drawn was confined to the patriline. In a patrilineal and patrilocal community - that is a community in which property inheritance and residence are both determined by the male line - the collective memory tends to focus on fathers and brothers and to exclude mothers (who come from other villages and clans) and sisters (who leave the village and marry elsewhere). Nonetheless, it is quite possible to elaborate the basic descent lines in recent generations by including women. If, for example, one were to include the clan and natal village of women settling in the village on marriage, and the village/clan into which women from the village marry, a rich body of information on women's social networks and inter-village linkage could be developed. This is particularly useful where, as in this tribal area in India, marriage circles are (still) physically fairly limited (ie within a 15 mile radius).

Although we have not yet attempted to develop genealogies with groups of women, we suspect that the genealogical charts represent knowledge of formal patrilineal social relations - a type of knowledge which characteristically has a different meaning for men than for women. For women this is knowledge which they would acquire first in their natal home and then in their married home. The extent and significance of knowledge of natal patrilineages will vary depending upon a variety of factors such as age of marriage, the physical and social distance of their natal home, the number of women in the village from their natal clans, and other links with their natal home. These kinship ties may mean that the social networks of women in a village may well differ from that implied by patrilineal genealogies. Thus, women from the same natal village, or having close relations through their mothers, may have closer ties than the patrilineal links would imply. Similarly, men who are sons of women from the same natal clan may have closer ties than the focus on patrilineages suggests. Needless to say, all this has relevance for programmes, such as the ODA/Kribhco Rainfed Farming Project, which involve the promotion of informal local institutions, groups of women and men, for natural resource development and management.

As the charts show, the 'kinship mapping' exercise carried out in the village of Chatra Kuta, followed established genealogical conventions. Moreover, it was the outsiders, rather than the villagers themselves, who drew the charts. None of this need necessarily be the case. Although the time required would be longer, there is no reason why villagers could not be encouraged to develop their own conventions in representing kinship relationships, and to draw these themselves.

Uses of Genealogies

The potential applications of information contained within a genealogical chart in practical development are many.

- Genealogies provide an accurate record of social identities in a community. Relational (rather than statistical) information is particularly important for social

analysis, and it helps overcome the statistical fiction that communities are composed of assemblies of independent households.

- In conjunction with the village map, the location and kinship relationship of all members of the village could be established.
- Genealogies provide field workers with knowledge which helps them situate individuals and draw social connections in a way which parallels that used by villagers themselves. It facilitates the identification of village sub-groups and alliances and the interpretation of conflicts.
- Genealogies provide a means to overcome the inherent bias (in existing forms of social mapping) towards spatial models and metaphors of social links (maps, linkage diagrams).
- The genealogy provides information on the major kin groups in a community and on minority or subordinate groups (eg affinal or immigrant lineages). The genealogy, thus provides a reference point for discussion of a range of issues (some otherwise sensitive) concerning the composition and social organisation of the community.
- The genealogy clearly indicates the composition of each household. This provides a rapid picture of, for example, family sizes, single vs. joint residence and shared 'hearths'.
- Genealogies provide a clear record of the history of individual families, the pattern of family expansion and separation and the nature of present day inter-generational links (eg. which households have elderly dependents).
- The genealogy can and has been used to cross check social information obtained in other ways, eg. information on the village map, from a village census. In the present case, several gaps were identified and corrected.
- Used in conjunction with other sources of information (participatory mapping, wealth ranking, cadastral maps etc.) genealogies can provide a key to understanding and analysing patterns of landholding, inheritance and fragmentation. Using the genealogy in Chatra Kuta, for example, it becomes clear that up until a certain point land rights must have been linked to cultivation; larger families cultivated more land and acquired more wealth. However, in recent times following registration, land is held by title and divided equally between brothers - with the ultimate consequence of fragmentation.
- A genealogy provides a grid on which a variety of things can be 'mapped'.
- * The nature of participation in project activities can be 'mapped' in kinship terms. It was only after we had completed the genealogy, for example, that it was clear that those who were most actively participating in the PRA exercises were from key families of the principle lineage, and more

particularly that the minor lineage (and therefore their views) was poorly represented.

- * It is possible to identify the kinship identity of all of the key village figures and holders of formal and informal offices. Once the project had established a procedure for recording the name of all participants in project meetings and activities, the genealogy provides a useful tool in the interpretation of this information.
- * Equally the pattern of other social activities can be recorded, eg. involvement in seasonal migration; the flow of information and innovation.

Conclusions

There is absolutely nothing new about genealogies as a method of social research. Indeed, as with much in the PRA tool kit, this is a tool which has been around for a long time, but which is now being introduced for application in different contexts and by different types of professionals. In the ODA/Kribhco Rainfed Farming Project, village-based community organisers are being trained in the preparation of genealogies as an aid to developing an understanding of the structure of local communities, and to help in monitoring the nature of participation in project activities and their social impact. There is no reason why other applications could not be found in a wide range of other development contexts.



2. ARE SOME "PARTICIPATORY" TECHNIQUES CULTURALLY BIASED? (OR: ARE WE HOOKED ON MOM'S APPLE PIE?)

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A number of pictographs, such as the histogram, trend line and pie chart, have been borrowed from conventional statistical presentation and adapted to become part of the RRA, and later PRA, suite of techniques. It is not always entirely clear why we have opted for such modes of information gathering, analysis and depiction. Although subconsciously at least part of the motivation might just possibly be an attempt to lend an aura of statistical respectability to what to the sceptical eye often looks like a pretty unscientific "touchy-feely" methodology! Putting this unworthy suspicion aside, however, it could reasonable be argued that, while histograms and trend lines (in common with many other RRA/PRA techniques) are abstract representations of reality and as such relatively free of cultural bias, it would be difficult to make the same case for the pie chart.

Conventional statistical presentation itself ran the risk of being accused of becoming "touchy-feely" when it introduced the homely concept of pie-charts. Everyone is familiar with a pie or cake cut radially into wedges of varying sizes. (For "everyone" we should read everyone in the West, where this pictograph was developed). Probably as a result of sibling rivalry, westerners learn from an early age how to gauge the relative size of a cake- or pie wedge and how to compare it visually with another so as to assess whether or not there are grounds for an appeal.

But in the rural areas of the developing world it is difficult to find an example of a pie- or cake-like object forming part of the traditional diet.² Of course there are circular cereal-based products, like *injera* in Ethiopia and *chapatti*, *roti*, *puri* and *paratha* in various parts of South Asia, but these are usually consumed by tearing off a portion and using this to scoop up a sauce or curry, or else eaten wrapped whole around some other foodstuff. The concept of a pie or cake cut into wedge-shaped servings is quite alien to such societies (except, of course, to the urban elite - the upper crust, as one might say).

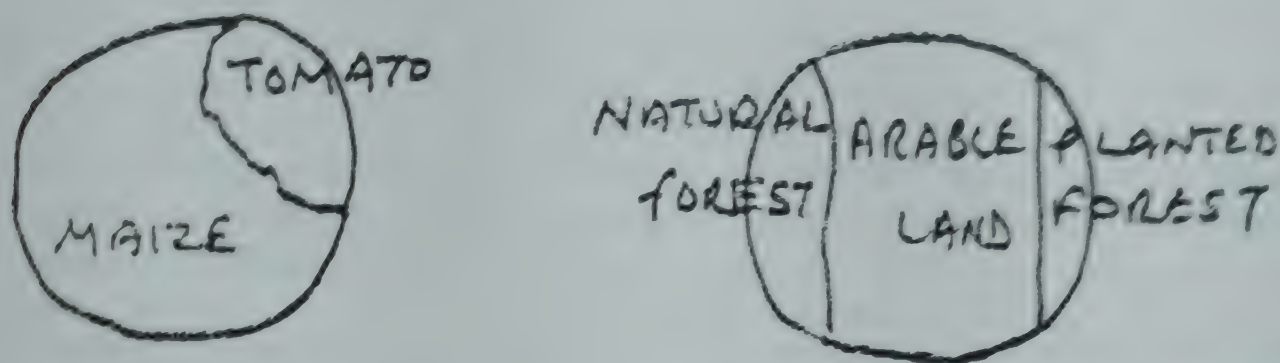
In our RRA/PRA activities in Nepal we have unquestioningly tried to use pie charts, persisting in the face of obvious and often frustrating difficulties.³ I have personally watched

¹Program Leader, *Policy Analysis in Agriculture and Related Resource Management*, HMG of Nepal Ministry of Agriculture-Winrock International, Kathmandu. Opinions expressed are the personal views of the author and do not necessarily reflect those of others, including the members of the Nepal Tarai policy analysis research network (see Note 3 below).

²Someone, somewhere, is bound to come up with the exception that proves this rule!

³"We" refers to a research network established with the help of the program the present author co-ordinates. The members are based in various locations across the Nepal Tarai and they use PRA techniques for purposes of agricultural policy analysis.

farmers, obviously perplexed, adding lines (often not radially) to a circle drawn in the dust or on paper, rubbing them out, trying again, rubbing them out again ... and again. The diagrams below, which are copies of actual specimens from the field, exemplify the nearest approximation to a true pie chart a group of farmers can usually manage.



When a nice neat-looking pie chart does emerge, on investigation it often transpires that either (a) the frustrated interviewer has taken the farmer's "raw data" and transformed it into pie chart format, or (b) the interviewer has added some construct, for example quartering the circle, in an attempt to get the concept across to the farmer. The validity of the results may be open to some doubt.

As a consequence of such experiences, we have begun seriously to question our previous unthinking loyalty to this technique, and look for something more appropriate. In doing so we feel we have come up with a method of measurement that is both indigenous, and therefore more easily grasped, *and* more precise than the pie chart.

The range of RRA/PRA techniques was developed partly in response to the fact that most of the rural people from whom we wish to learn are non-literate. In designing these techniques, it has also tended to be assumed that the level of such people's numeracy tends to lie towards the ordinal, rather than the cardinal, end of the scale. While it is certainly true that a high degree of accuracy in counting and measuring has not usually been found necessary, there is one important exception. In all but the most remote parts of the developing world, farmers and others have become to some extent commercialized and have thus become familiar with money and how to count it. Given their poverty, they do so very carefully.

More importantly, some of them have gone on to make systems of analogy whereby the subdivision of non-monetary quantities is expressed in monetary terms. For example, when there were still sixteen annas to the rupee, farmers in many parts of South Asia adopted this analogy to describe the state of their crops. A bumper harvest, for instance, was a "sixteen anna" crop, an "eight anna" crop was around average, and so on.⁴ I have come across farmers in Bangladesh, India and Nepal who still use this system today, even though their

⁴This seems a natural human propensity. For example in current US slang it is common to disparage someone's intelligence by saying he or she is "only 98 cents to the dollar".

currencies have been decimalised for decades. No doubt the same happens in other parts of the Sub-continent, and possibly elsewhere in the developing world.

We have now begun adopting and adapting this approach wherever we find confusion among farmers as to how to make a pie chart. If success continues, we will probably drop this pictograph altogether. In adopting the monetary analogy it seems unnecessary to stick to the sixteen anna system, since: (a) many farmers, particularly the younger ones, are unfamiliar with the old hexadecimal division, and (b) anyone who can grasp the principle can presumably apply it to a decimal currency equally well. Since the Nepalese rupee has long been divided into 100 *paisa*, we use this system. Thus, in asking farmers to quantify the area under various wheat varieties, the question is put in a form such as: "Imagine the total area under wheat this year is like one rupee. How many *paisa* are under *Sonalika*, *Siddhartha*, *Vinayak*, *Triveni*, etc" (the farmers having previously listed the varieties locally grown). Where we have used this approach we have found that farmers understood the analogy immediately and could easily share the information. In one very accessible area, the money analogy was dropped and straight percentages asked for and understood (eg. "If the entire wheat area is 100, how much is under ..."). In future we intend to bring along a bag of 5-*paisa* coins (the lowest denomination now minted in Nepal) and if there is difficulty with any of the more abstract constructs we will hand out twenty of these coins at a time, asking the farmers to sort them into piles of appropriate size.

One of the beauties of this approach is that not only is it more truly participatory than pie-charting, but it is also inherently more accurate, as it exploits an already established understanding of percentages. Even if this is reliable only to the nearest five per cent or so, one suspects the results will be far more accurate and reliable than some arbitrary set of lines superimposed on a rough sketch of a pie by someone who has never even seen one. "Appropriate imprecision" works both ways!

Incidentally, the money analogy has also been successfully used by one of our network members as a substitute for the bar chart in seasonal rainfall diagrams. Here the farmers were asked to name the month which generally has the highest rainfall. This was reported to be *Shrawan* in the local calendar, and the farmers were then asked to imagine *Shrawan* rainfall as being "like one rupee". They were then asked to name the month with the second-highest rainfall, and to say how many *paisa* of rain fell in that month. The farmers easily grasped the analogy and reported that the second-highest rainfall generally occurred in *Ashadh* and amounted to around 90 *paisa*. This process was repeated for the other ten months and no difficulties were encountered in the process.⁵ The major drawback with the substitution of money for histograms, at least in seasonality diagramming, is that the rainfall chart forms such a useful visual focal point for exploring relationships among crop calendars, food stores, the incidence of sickness, labour peaks and so forth. To substitute a more abstract form of representation might in these circumstances be tantamount to throwing out the baby with the bathwater.

⁵Ashok K. Paudyal, personal communication.

3. COMMUNITY SELF SURVEY

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STS, Objectives and Expectations

This article describes the use of community self surveys in the *Small Towns Sanitation - West Java* (Indonesia) project in 1989-90. A community self survey can be seen as a variant of participatory rural appraisal, which we discuss at the end.

The Small Towns Sanitation - West Java project (STS) was a project of the Indonesian Government, with partial funding by the Dutch Government and with implementation assistance by a consortium of Indonesian and Dutch consultants and NGOs.

STS had two objectives. At a macro level, it assisted provincial and district governments in the planning of sanitation improvements¹ and the construction of facilities which serve more than one community². At a micro level it aimed to increase the number of sanitary facilities at household and neighbourhood level and improve sanitation related behaviour. Planning at the macro level covered 18 districts of West Java Province, while micro level activities were limited to two demonstration towns, Cibadak and Majalengka.

Community Action Approach

For the micro level improvements, the project opted for a community action approach, with the community members, and in particular the women as the main actors and the government in a supporting role. The project staff were convinced that with a high degree of "community action" more toilets could be constructed, at lower costs (to the government and per toilet) with a better chance of proper use and maintenance. The project staff felt that the "dormant" need for toilets (etc) could, with the proper stimulus, be translated by the community into action. The best stimulus is one by someone known and esteemed, ie. someone from within the community.

Included in the community actions was a survey carried out by the community members themselves. This was undertaken for several reasons.

With community members as surveyors, the survey would be more reliable. Surveyors from within the community have little difficulty establishing the needed rapport and are more likely to receive the full cooperation and trust of the people being surveyed. STS accepted that

¹Sanitation in STS encompassed toilets, sewerage, solid waste, drainage and health education as related to hygiene

²Included in the macro level activities was the overall planning, financing and backstopping of the community and household activities.

the surveyor influences the person interviewed. Scientific research was not the aim in STS and the presence of the researcher could even be seen as "contamination" of the study. Such influence could be used to increase the willingness of the interviewee to participate in the project. The interviewers carried pamphlets explaining the basic facts on sanitation.

Traditional surveys attempting to measure *willingness-to-pay* are likely to be very inaccurate predictors of actual payments, or in STS's case participation. If the informant says, for example, that s/he is willing to make certain contributions, the possibility is very real that at the time of delivery, that person opts out for different reasons. If the interviewer is a neighbour, not only is the chance greater that a truthful answer is given, but also the interviewee feels more committed to act up when the time comes.

Finally, it was expected that starting community action in the data collection phase would set the stage for further community action with planning, construction, operation and maintenance, and repayment of credits. This last reason was the most important for choosing a self survey method. The other objectives could have been reached with a survey, fully supervised by an outsider, using local people as interviewers. If, however, one aims at increasing the responsibility of the individual households and communities for improving their conditions, then it is only logical that they should also be given the responsibility for such activities as data collection.

Actual Proceedings and Results

Before the community self survey, *dasa wisma* women at the lowest organizational rank of the national women's organization (each woman responsible to guide some ten households) were trained by project staff. In some neighbourhoods this was the first activity by the *dasa wisma* and interest was extra high there. The training, lasting a few hours covered both their task as surveyors and as community motivators. A simple one-page questionnaire was distributed with the pamphlets.

In some neighbourhoods the women changed the wording and style of the questions. They also adapted the interview procedures to the local circumstances, including the selection of respondents within a household and the procedures to organize group interviews within their *dasa wisma* groups. Such changes made the survey even more their own survey. Actual data collection took two days and covered 100% of households.

Assisted by youngsters from the community, the women tabulated data, calculated simple frequency distributions and aggregates per neighbourhood and typed a simple report about actual sanitary conditions and the needs and wishes to add or improve sanitary facilities.

In each neighbourhood one set of maps were prepared by the communities to show the existing drainage, solid waste disposal and toilet facilities and practices (see Figure 2). On another set they marked where they wanted to construct or rehabilitate a drain, to build a private or shared toilet facility and where a private or communal garbage container would be needed. In Indonesia in many villages and urban neighbourhoods, people are used to preparing maps. Almost each neighbourhood has a map, usually hanging in the office of the neighbourhood head, but sometimes also hanging at the entrance gate of the neighbourhood.

Figure 2. Map of existing situation on human waste disposal. Cibadak, RW 09. (Note: the original map used colours and no symbols. The use of symbols was suggested to retain information after photocopying, but this was not liked in any of the communities)



On these maps the main roads and rivers are marked and usually also all houses. Such maps were used as base maps to mark existing and needed facilities.

Both the survey results and the map were used in neighbourhood meetings to continue the sanitation improvement campaign and the planning of actual sanitation improvements. One element which deserves mention is the use of toilet owners as propagators of the construction of toilets. In public meetings they explained, in their own language, what advantages they saw in having a toilet. The advantages they mentioned were mostly related to convenience, such as: short walk in case of illness or bad weather, sitting dry, less risk of meeting a snake, etc.

Benefits and Failures

The first benefit of the community self-surveys is the database, including the maps. Another survey would have taken more time, and especially the preparation of a detailed map of all houses, sanitary facilities, desired locations for new facilities, etc.

Part of the expressed needs were the result of the survey (and other project activities at the time of the survey) and provide a true picture of that moment. During the survey many people expressed interest in constructing a sanitary facility and the number of applicants for a sanitation credit was also high. Some people did not want to wait for the credit and started constructing a toilet during the planning period (including some of the village cadres who seem to have been embarrassed that they propagated something they didn't have yet themselves).

Not all facilities "needed" were actually built. In one typical neighbourhood nearly 75% of all toilets and toilet effluent disposal systems were built but none of the solid waste and drainage elements, whereas in other neighbourhoods the solid waste element was implemented according to plan and fewer planned toilet systems were constructed.

In one of the two towns adjoining neighbourhoods not yet part of the project came forward with requests for sanitation credits. Although not all persons involved at the initial preparation and training phase continued to participate actively, generally a very strong desire could be observed to make the project a success, both at the community level and at the lower levels of Local Government.

The individual households in the project area were actively involved in the various phases of the improvement of their sanitary conditions. Not only did this lead to higher expressed needs for such improvements and to a more solid database, also the participating households felt very much involved and had a high sense of duty to the proper use, operation and maintenance of the facilities and services. This contrasted highly with many instances of non-acceptance by communities of water supply and sanitation facilities and services elsewhere in the same region, even in the same towns, that were planned and constructed by an outside agency.

In general it can be claimed that the community self survey and other community activities have had positive impacts on community organization. If, as the authors believe, the approach for local development activities should not just be participatory, but also enabling, then both government officials and communities must be prepared for their new roles. For the communities it means that they must gain confidence in their own ability to plan and implement their development and must learn some new skills such as the execution of a needs survey.

The community self survey and the (other elements of the) community self-planning of sanitation improvement resulted in a high number of households and groups of households applying for a credit. However, by the time the first instalments of the credits were to be handed over, the government reversed its earlier decision and decided to use the money for construction of the facilities with contractors. Their work was below standard and only after high-level intervention were some improvements made. Still, the people were expected to pay for the facilities in accordance with the signed applications. It may not be a surprise that the repayment of these "credits" was very poor.

Essential for community projects is to start implementation (almost) immediately after the community has been activated. The community self-survey should not last long and should be part of a smooth and rapid overall process. In West Java the community self surveys, from training to completion of a first village sanitation plan lasted only a few weeks. In the

current 41 1KK Water Supply Sector Project only 14 days (11 working days) are needed to cover in one district concurrently 4 villages, including introductory meetings (3 days), *dasa wisma* training (1 day per village), data collection (1 day per village), tabulations and mapping (1 day per village) and village discussion of the village plan (1 day per village).

STS West Java was not the only project where community self surveys were introduced. Two examples in the field of water supply in Java are OTA 33 and the 41 1KK Water Supply Sector Project. In this last project, one variation is that mapping is based on maps with correct scales provided by the project staff. The community completed these maps by indicating which household occupies which house etc.³

Even though at the end the credit scheme did not materialise as hoped and expected, the overall result of using community self surveys was very positive. It showed that communities are able to implement a survey and do their own planning of sanitation improvements with only minimal outside support and that the communities, if given that opportunity, will come up with plans, based on a very solid foundation: their own efforts, their own knowledge of local circumstances and their ability to convince themselves of the need for such a development plan.

Community Self Survey and Participatory Rural Appraisal

For the survey the term *Survai Kampung Sendiri* or community self survey was used.

It was not participatory in the sense that the "target community" participated in research by an outsider. Generally participation still limits the role of the community or of the women who participate in some project or programme to that of an assistant and the government often remains the main actor. Within STS an attempt was made to reverse these roles. The term government participation would be a better term but is not likely to be easily accepted by government staff.

A community self survey also has clear drawbacks. There is a great risk of creating high expectations, even more than in the case of a more traditional survey. If a community is given the responsibility to start a community action project, it expects that it will also get the authority which goes with that responsibility and it may expect that the government or aid agency at least will provide some assistance, such as credits or technical advice.

Similarly, disappointments can be higher if after carrying out the survey (and executing other community actions), the community does not get from the government what it expected to get. In the case of STS, disappointments were very high indeed, when, contrary to warranted expectations, the government appointed contractors to construct the facilities.

³Poerbo H. and Shubert, C. 1978. *The Use of Aerial Photographs and Self-Help Surveys in Integrated Marginal Settlements Improvement Projects*. Bandung. (The use of base maps supplied by an outside agency but corrected and completed by the community was developed by Ir. Victor Purba at the Institut Teknologi Bandung as early as 1978, eg. for marking the location of underground networks of water supply, electricity etc.)

Therefore, before setting out on the course of community self surveys, one should be reasonably sure that the project management/government is willing to hand over the responsibility, and that they will continue to do so until the completion of the project.

The differences between organized communities and communities where poor cohesion and organization is a bottleneck to community action are important for the issue of community self surveys. In Indonesia, especially on the island of Java, the rural villages and most urban neighbourhoods have a high degree of organization and cohesion. Even where vast economic differences exist between the different members of the community, on the whole one may say there is a good cooperation between the rich and the poor. Often the economic top of the community contributes in many ways to the level of public facilities of their poor neighbours. In cases where little cooperation exists between the members of the community, it may even be risky to hand over the responsibility for a survey (and indeed a project), as it may be used against some segment of the community. In such cases outside control may still be required to guarantee that the intended people are the beneficiaries.

Many of the classical criteria of research do not apply to the community self surveys in STS and probably also not to the PRA examples given in the literature. Mention has already been made of the issue of "contamination". Because the resulting database was certainly very reliable, the issue could be avoided in STS by not calling it research. Although government officials were sceptical about the desirability to hand over responsibilities to the communities, they also were confident about the reliability of the database which resulted from the community self surveys. The database is only one of the desired outcomes of the survey. In the case of STS the active involvement of the community in the implementation of the survey started a process of community actions and the interviews were combined with health education and motivation.

Robert Chambers⁴ recently discussed PRA as an alternative to rapid rural appraisal, whereby outsiders extract information from a community. It can be argued that a PRA still is a method of extracting information, unless the community is not only given the stick to explain his conditions etc. but is also given the responsibility to use the results of the study for planning themselves the desired improvements in their environment. While some forms of PRA can be used very well to extract data on actual conditions and behaviour patterns, as well as on needs, wishes and plans, community self-surveys should fit in an overall approach that enables community action for development.

⁴Robert Chambers. 1992. Participatory Rural Appraisal. Paper presented at Seminar *Going to Scale: the BRAC Experience 1972-1992 and Beyond*, NOVIB, The Hague, September 1992.

4. LEARNING TO USE RRA AND PRA TO IMPROVE THE ACTIVITIES OF TWO LANDCARE GROUPS IN AUSTRALIA

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Introduction

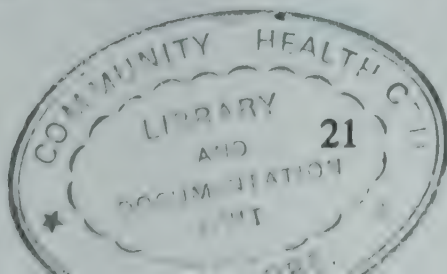
This paper reports on the use of Rapid Rural Appraisal (RRA) in two Australian rural communities. Several processes and issues are described which relate to the application of RRA in a context other than the Third World by researchers and undergraduate agricultural students with no previous experience in the methodology. The discussion focuses on what we learnt about the process of RRA, how to get started with the methodology and its applicability in Australia. Also discussed are the institutional barriers to an RRA approach and the need to develop new extension approaches to complex land and social degradation problems.

How We Got Involved with RRA

Agricultural teaching staff at Charles Sturt University-Riverina (CSU-R) have been interested in alternative views of research and extension as a means of coping with complex problems in agriculture which are not adequately addressed by traditional approaches. Over ten years ago changes were made in some agricultural course structures by introducing a systems approach (Dunn, 1991a). At the same time we became aware of new approaches to agricultural development in the Third World. This was exemplified in the literature on Farming Systems Research and Extension (Hildebrand, 1988 and Jones and Wallace, 1986), Agroecosystem Analysis (Conway, 1986) and farmer-first (Chambers, 1990).

Much of this thinking seemed to be associated with a loss of confidence in the transfer of technological innovations from modern agricultural systems to traditional ones. Diffusion and adoption theories were not adequately explaining change in the complex "technology driven" agriculture of developed economies (Nitsch, 1982 and Roling, Jiggins and Carrigan, 1987). Fleigel and van Es (1983) were more succinct in their criticism saying that a diffusion-adoption approach could never adequately explain or enhance environmentally sensitive agricultural practice. They also suggested that the problems arising from technology adoption could not be usefully investigated by diffusion-adoption research methods.

This unrest with established extension perspectives together with the new teaching approach in agricultural systems and extension subjects led us to search for suitable methodologies that students could use in project work. The discovery of RRA in the overseas literature was fortuitous. Before this we had relied on Peter Checkland's soft systems methodology (SSM) (Checkland, 1981) which provided a very good thinking and writing up tool once data had been collected. However, it did not give students a good training in problem identification



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from the farmers' perspective nor did it provide a methodology for data collection (Dunn, 1991b).

Landcare

Landcare is a generic term used in Australia to represent a wide range of action by individuals, the community and government to repair and prevent land degradation. The ethos of Landcare is based on groups of people (farmers and towns people) who work together to care for the land in their local area (NSW Landcare Working Group, 1992). The movement arose out of discussions between the main conservation and farmers' union groups which resulted in the Australian government making a commitment to provide \$A320 million over ten years to care for the land. In less than four years around 200 Landcare groups have been formed in NSW alone (Woodhill, 1992) and more than 900 in Australia (Campbell, 1991). Many of the groups have identified problems and successfully applied for funding to support their activities. In some cases funding has been used to support specialist Landcare coordinators who work for one or more groups. The movement has also been a great stimulus to government conservation authorities. Soil conservationists, extension and research staff now have an additional source of funding to address land degradation problems. After only four years substantial progress has been made in identifying Landcare problems and issues. This has mainly occurred via the sharing of knowledge between land owners, extension workers and the wider community.

Improving Landcare

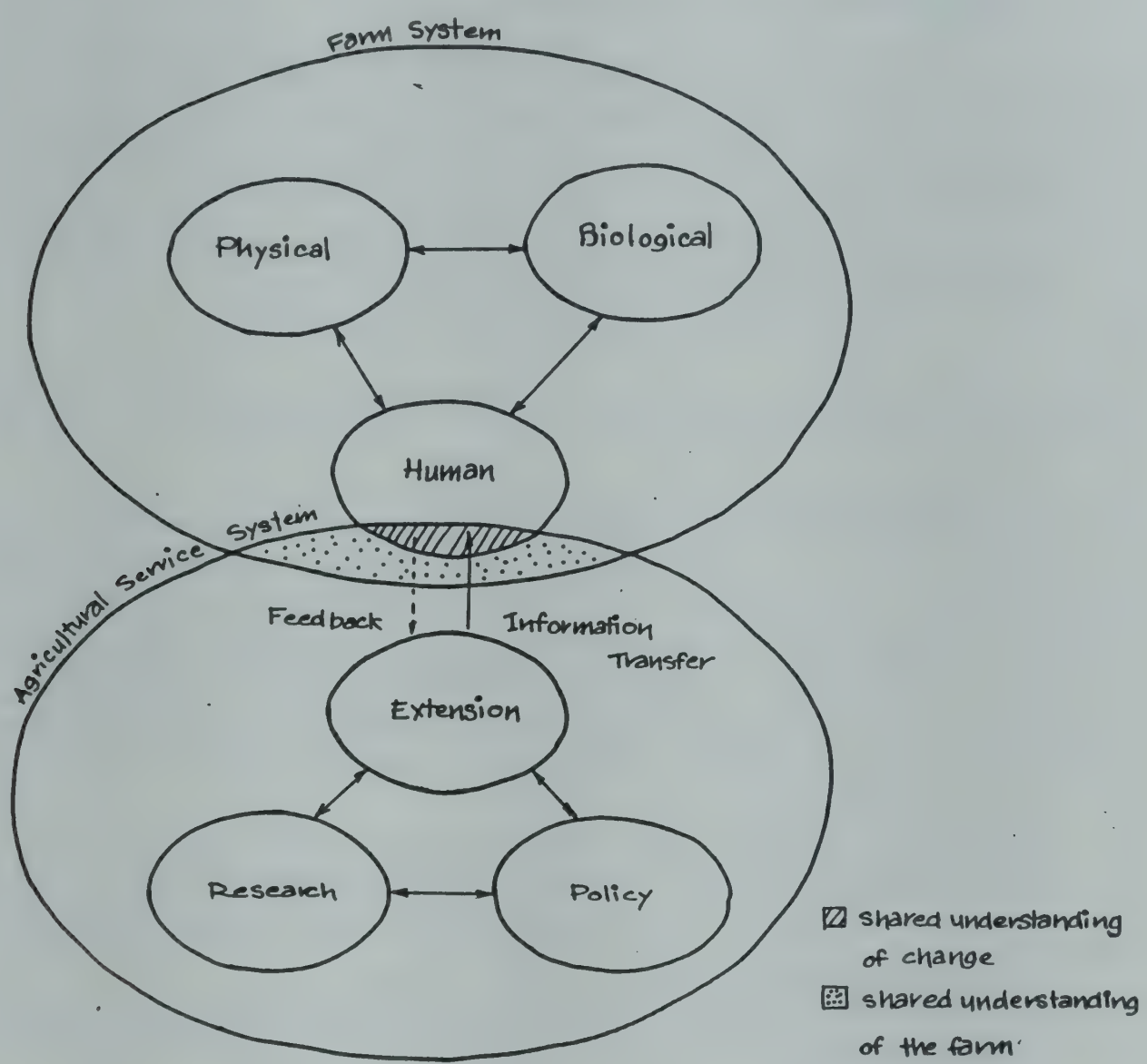
Despite the success of Landcare, certain aspects of the movement are not well understood and people working in it are often dissatisfied with the results of their efforts. For example where Landcare management committees are successful in attracting government grants for demonstration work, often the members are unimpressed especially where this appears to be the main aim of the exercise. In other cases members are critical of money spent on human resources like co-ordinators and extension workers. They would prefer money to be spent in more tangible ways, like tree planting and earth works (Woodhill, 1992). Some extension workers also have problems working with the people. They lack confidence and direction in group processes and are often uncomfortable in a facilitator role compared to an advisory role. On the one hand they feel that local people should solve local problems, but because many of the locals have no meeting or organiser skills extension workers often feel pressured into taking these roles, thus the locals never really "own" their problems. Some Landcare committees appear to have lost touch with their members and in some cases "group think" may have taken over (Chamala and Mortiss, 1990).

One way of understanding the complex problems in Landcare extension is to use a systems approach. In course work at CSU-R our thinking and analysis of change in agriculture is based on the ideas and methodologies of Spedding (1988) and Checkland (1981) and is depicted in Figure 1.

The assumptions embodied in Figure 1 are first, that farms behave as if they were a system comprising three interacting components. Second, change from outside the farm can only have effect via communication and shared understanding between people in the systems. Applying these principles to Landcare the following propositions are posed. First, progress

in Landcare to date has relied largely on a shared understanding of the physical and biological components of the degradation problem. Second, improvements to agriculture and the environment can only occur through the human component of the system. Third, to

Figure 1. The changing farm system and the extension process



enhance the process of change more knowledge is needed on the social structure and communication processes within rural communities.

Using RRA to Define Landcare Problems

In August 1991 agricultural students and staff of CSU-R and local extension workers attended a two day seminar and workshop on Rapid Rural Appraisal conducted by Dr. Ray Ison who shared his experience and understanding of this methodology (Ampt and Ison, 1989a). As a result it was decided to do RRAs in two local Landcare areas. The first involved a group of final year agriculture students who were studying a systems/extension subject. We called this the 'student RRA'. The second team comprised a group of extension and university staff, the study being referred to as the 'staff PRA'. The student RRA was conducted with a smaller sample, all interviews were done in one day and a narrower set of objectives was

used. The staff PRA was conducted over three and a half days with a larger sample and it covered a wider range of issues. As it culminated in a community meeting we decided that it was a Participatory Rural Appraisal (PRA). Key features of the two studies are summarised in Tables 1 and 2.

Establishing Team Goals and Objectives

The successful implementation of the PRA and RRA work (summarised in Tables 1 and 2) was driven by team commitment which grew out of clear, mutually agreed goals. In the staff PRA these goals were established early in the team-building meetings and were fashioned around the following aspirations:

- (i) what we hoped to achieve as individuals
- (ii) what we hoped to achieve as a team, and
- (iii) what we hoped to achieve for the community.

Table 3 summarises the results of team building workshops out of which we developed clear goals and team cohesion.

Our team was motivated by a feeling that PRA was a process we were interested in and we wanted the farmers and their families to help us test the usefulness of the methodology. Furthermore we felt that the methodology would enable landholders to express their perceptions of rural issues and become involved in deciding what action should be taken. Four guiding principles were written during the team building process and although they were not expressed explicitly in the final protocol they did help us consolidate a collective research philosophy. Key features expressed were:

- the necessity for joint problem identification by the PRA team and farmers;
- the importance of farmers' knowledge and expertise in the research process;
- the desire for shared understanding and insights by the PRA team as an interdisciplinary learning process, and
- the need to identify major problems on which joint future action could be taken by the community and extension workers.

Team-building and Field Work

The team-building and goal-setting process enabled us to learn about the key features and advantages of RRA methodology. These were outlined by Ampt and Ison (1989b) and our acceptance of them consolidated our confidence in the process, viz;

- going for insights rather than numbers;
- learning with the community;
- looking for opportunities to improve the local situation;
- concentrating on diversity of local knowledge and team member perceptions, and
- avoiding "development tourism".

Table 1. *Key features of the data collection phases of the RRA and PRA conducted with two Landcare groups at Wagga Wagga, 1991*

Features	Staff PRA	Student RRA
Number of families interviewed	18	35
Interview method	Semi-structured interview (SSI)	Semi-structured interview (SSI)
Selection of team members	Interest in RRA and Landcare	Final year systems/extension students
Number of teams	5	7
Interview venue	Farm house	Farm house
Interview teams	One interviewer and one scribe	Two interviewers and one scribe
Survey duration	2½ days	1 day
Method development and training time	8 x ½ day sessions	3 x ½ days sessions
Selection of interviewees	Key informants, geographic transect Kyeamba Landcare area Maximum diversity based on land type, location, farm size	. Key informant . Distance of farm house from public road - student teams walked in from a bus drop-off . Downside Landcare area
Research objectives	. To identify issues of importance to local people and to help them take action to improve the situation . To help Landcare develop long term strategies	. To find out about issues influencing landholder livelihoods and how this influenced their involvement in Landcare
Focus of research interest	Past, present and future perspectives on: physical, economic and social aspects of life in the Kyeamba Valley	. Landholder perceptions of area history, physical and economic problems, and the relevance of Landcare in the Downside district
Interview process	To find out what people do not what they think	To find out what people do not what they think

continued ..

Table 2. Key features of data analysis and feedback to participants in the RRA and PRA conducted with two Landcare groups at Wagga Wagga, 1991

Features	Staff PRA	Student RRA
Data Assembly	<ul style="list-style-type: none"> . team members debrief each other after each interview . data organised into lists according to research objectives 	<ul style="list-style-type: none"> . student teams debriefed by a staff member . data organised into lists according to research objectives
Data analysis	<ul style="list-style-type: none"> . categorising information into themes which were mirrored back to the community using their words . diagrams drawn to express what the people were saying . data analysed by interviewers in 1 day and presented to a community meeting the day after the last interview 	<ul style="list-style-type: none"> . data entered on butchers paper and shared amongst interviewers and staff . themes developed and diagrams drawn to express a picture of what people were saying . class discussion of RRA and insights from the research experience
Feedback and reporting	<ul style="list-style-type: none"> . community workshop/meeting . written report to all people in the Landcare area 	<ul style="list-style-type: none"> . written report to interviewees . on going work with the Landcare group by a student project team
Outcomes	<ul style="list-style-type: none"> . learning about community issues . community commitment to action . initiatives taken on by local extension workers, farmers and Landcare coordinator 	<ul style="list-style-type: none"> . students experience real world problems . community awareness of student and university interest in their issues . continuing work with the Landcare group by staff and students

continued ..

Table 3. Goals for a possible PRA expressed from three perspectives during a team formation meeting

Personal Goals	Team Goals	Goals for Local People
Learn about RRA	Develop a rich picture of Landcare area	Improve lifestyle
Gain extension insight	Work together	Encourage ownership of problems
Gain insights into local communities	Understand perceptions of other team members	Improve group function and processes of Landcare
Isolate issues using RRA		
Develop skills in group work and extension	Interaction of ideas	Give the community a focus
Work with rural people	Communicate with landholders	Improve confidence, self esteem and management
Promote the Landcare ethic	Help people decide future action	

Successful team-building and goal-setting were the key processes which enabled us to do an PRA. The catalysts which got us started were Ray Ison's experience and enthusiasm and the fortuitous gathering of a diverse group of extension workers who were inspired by the possibilities. As it turned out we decided to work together for our mutual learning and to help a community improve agriculture and protect the environment.

Once goals and the sample criteria had been decided on, the serious work was roughly divided into logistics and interviewing skills. The former included asking permission of the Landcare group to work in their area, selecting a sample, writing letters, making phone calls and hall hire. These tasks were delegated to individuals, but interviewing skill required full team attendance at a series of training sessions. We set up role plays and small groups to develop skills in active listening and semi-structured interviewing. Most of us had to put aside existing communication styles which was especially difficult for the extension and education people. We also had to learn how to keep respondents telling us what they **did** rather than what they **thought**. This was an important part of the interviewing process because it gave us an insight into what people had achieved in the past and what future action they may take.

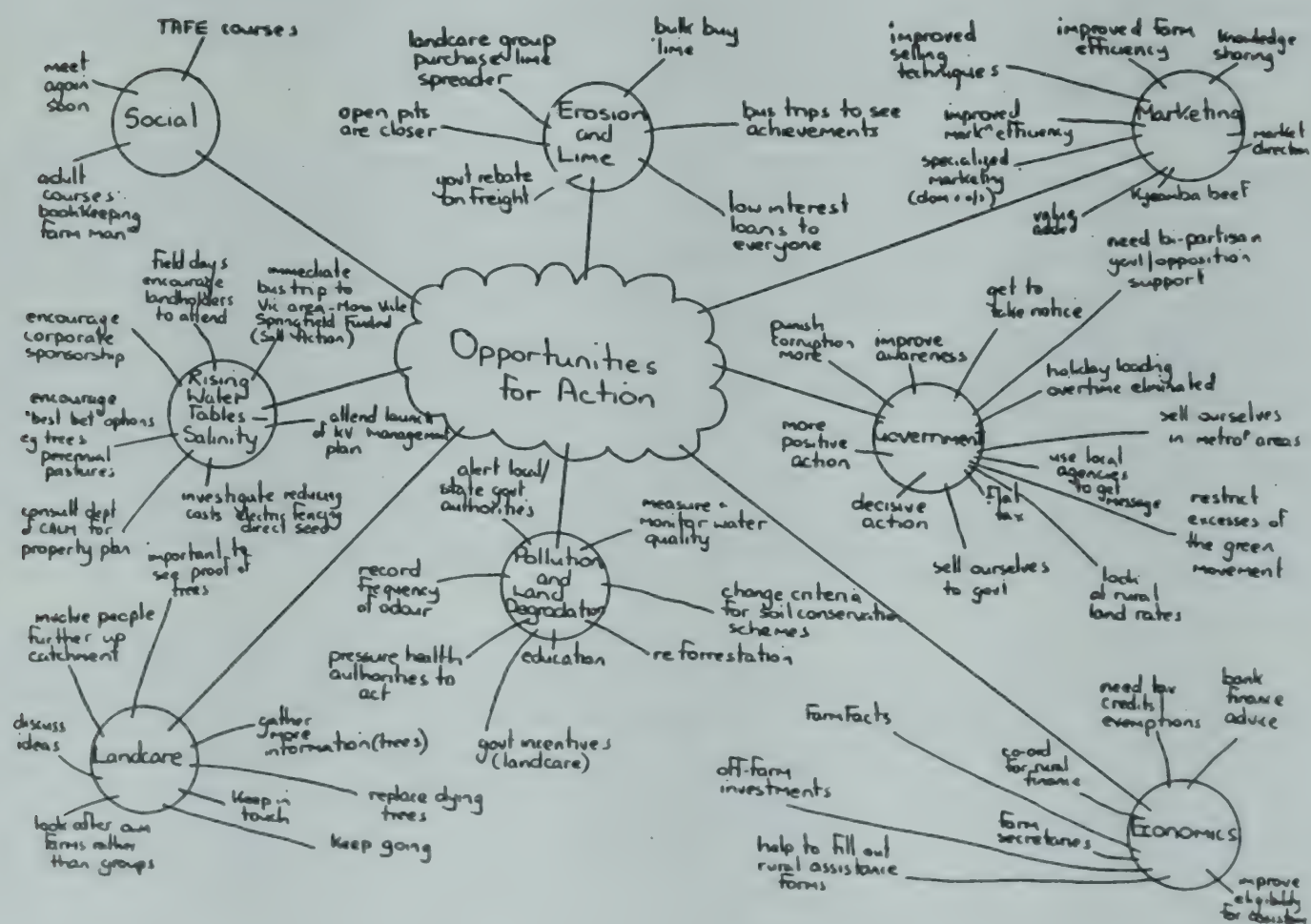
All interviews started with an explanation of the aims of the study, confidentiality, the interviewing and recording process, and what we planned to do with the data (Webber, 1991a). The interview structure was simple and covered a time scale as well as broad subject areas around which we anticipated most issues would arise. Questions began by asking respondents about what they were doing on their farms **now**. Then questions about the families' farming history in the area gave respondents an opportunity to express their achievements and problems they had encountered **in the past**. Finally people were asked **about the future**. This left the difficult issues until last. Here we steered the interview across three topics around which most problems could be expressed. These formed the basis of our data collection and analysis, *viz.*

- physical (land type) problems;
- biological (farming production type) problems, and
- social change (people type) problems.

Giving the Data Back to the Community

Analysis of the PRA data was done in one day to meet our commitment to the community meeting which was held in the evening of the day after the last interviews. We did this to give immediate feedback and because it meant that all the team could be involved in data analysis and contribute to the meeting. Lynn Webber showed us how to focus the data into themes and issues which were loosely arranged around our three interview topics. The process involved transposing and coding of data under the topic headings (physical, biological, social) and then identifying key themes around which the people expressed concern or interest (Webber and Ison, 1991). Under each theme there were many related and interlinking issues which were presented as diagrams of "clouds", "stalks" and "circles" (see Fig.2).

Figure 2. Future opportunities for action: perceptions of farm families at a PRA meeting, Wagga Wagga, 1991.



Source: McMillan and Dunn (1991)

Community participation was excellent with 72 people (out of a potential 110) attending the night meeting to find out what we had learnt. The information was presented by posters and short talks. Then the gathering was broken into small groups to explore issues and concerns that were important to them. The issues from these discussions were further focused into a new set of topic areas to which people gravitated for specialised workshop analysis. Here each group was asked to explore their issues, identify opportunities for action and commit themselves to improving the situation. The groups then presented their work to a plenary session. Seven groups presented their analysis and commitments and the meeting concluded over informal discussion and cups of tea.

Reports were written for the communities involved in the PRA and RRA. The aim was to show them what we had learnt in the hope that it would be useful. A small survey page was attached to each report to encourage feedback (McMillan and Dunn, 1991 and Kingham and Smith, 1991). At this stage the teams have concluded their formal work in the Landcare areas but individual members have continued to help in ongoing action.

What We Achieved

RRA provides a new approach for the investigation of complex agricultural problems which threaten the viability of rural environments and societies. Staff and students at CSU-R combined forces with extension workers to assist two Landcare groups come to a better understanding of the issues of concern and how these could be addressed.

RRA and PRA methodologies were adapted to Australian conditions which meant that we had to recruit and mould a team, learn about and adapt the methodology, gain the support of landholders and analyse the data. Then we had to give it back to the community with the hope that they would use it to improve their agricultural and social environment. What was achieved? Certainly we understand RRA and PRA principles and feel that we successfully implemented these in our studies. We now have the confidence to form a team and implement the methodologies to address land and people problems. Various aspects of our work and its relationship to the literature on RRA and PRA are worth mentioning because they help to validate the methodologies under Australian conditions. In particular "reversal learning" described by Chambers, (1992) was part of our experience. The issues of concern to landholder families were clearly expressed and were reflected in the data, its discussion at the community meeting and in the report to landholders (McMillan and Dunn, 1991). We learnt that landholders were aware of land degradation and ways to alleviate it, however, they also told us about their concern for the traditions of the land and the lack of hope for the future - especially in regard to their children.

The Landcare movement has enabled the community to understand, own and take responsibility to act on land degradation problems but whether it can help rebuild social networks is questionable. Already there are signs of frustration between the Landcare management committees and the less active members. The RRA and PRA teams aimed to help people discover how they could evolve a long term strategy for Landcare which would overcome these human problems. At the public meeting where the data was discussed several small groups were formed around areas of interest which included a pledge to meet again and take action (Webber and Ison, 1991). On paper this looks good but like the evaluation of any extension process, progress is difficult to measure. However, the team

intends to meet again (one year after the event) to evaluate the experience and to see what else can be done.

Outcomes of the RRA and PRA undoubtedly provided learning for our team - a process that Chambers (1992) describes as "extractive" because information is taken out of the area. In our studies I must admit that this was the most tangible outcome. However, we have been careful to share our insights via reports to the communities (McMillan and Dunn, 1991 and Kingham and Smith, 1991) in a conference paper (Dunn and McMillan, 1991) and in the unpublished paper by Webber and Ison (1991).

RRA's Future in Australia

There have apparently been quite a number of RRA's done in Australia (Ison, 1992) but so far I have only seen limited documentation: Ampt and Ison, (1989a) and Woodhill (1992). The New South Wales Department of Conservation and Land Management has expressed interest in the approach. However, it is possible that this is a honeymoon effect especially if established research and bureaucratic institutions do not fully accept that RRA can complement existing research paradigms. Whyte and Boynton (1983) observe that participatory R and D systems face political and bureaucratic barriers, and Chambers (1992) warns us that a fad on RRA could lead to its misuse. Some people expect RRA to provide answers to old extension problems such a slow adoption. However, the same people have not shown interest in new extension paradigms like 'farmer-first' and participatory approaches which are closely allied with RRA. Similarly, traditional discipline based researchers are sceptical about working with 'untrained' people like farmers. Furthermore, many natural scientists abhor lack of hard data and discipline oriented social scientists dislike the lack of tight theoretical and methodological approaches. Despite these obstacles I believe that RRA and PRA have a place in Australian extension, teaching and research, provided institutional barriers and traditions can be overcome.

Our experience shows that RRA can be successfully implemented provided the following points are noted. First, a committed team of six or eight people is selected. This is a manageable number which can attend intensive meetings and training sessions. Second, team moulding and training is run by someone with group skills and RRA experience. Third, it is essential to develop team goals and a protocol for the data collection. Fourth, skills in the analysis of qualitative data must be developed. Finally, if a PRA is planned someone must have the expertise to run a small group community meeting that enables data sharing and learning to occur.

In conclusion, the Australian rural context is different to that in the Third World and the problems faced by farming communities are complex. However, RRA principles and methodologies are transferable particularly because they include an appreciation of the knowledge and expertise of farming people. Also implicit in RRA is a recognition that understanding and improvement of complex agricultural and environmental problems must include the people of the land and their insights. Without this approach land degradation cannot be fully appreciated and scientific research will not be fully effective.

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5. FINDING OUT HOW PEOPLE PRIORITISE THEIR FOOD SECURITY PROBLEMS IN CHAD: THE CHALLENGES OF RRA AT NATIONAL LEVEL

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Introduction

This paper reports on an informal survey in Chad, using RRA techniques to try and understand how people perceive and prioritise their food security problems. The survey was part of the FAO assistance for the development of a National Food Security Programme (NFSP) in Chad.² In the true nature of the informal survey approach, it was probably the first time that questions of this kind were posed in a survey with national coverage. Most examples of RRA/PRA are concerned with micro-level studies, usually at the community level. A frequent question is whether RRA/PRA can be useful when information is needed on a larger scale, for example at regional or national level. Our experience in Chad shows that scaling up presents its own challenges, and tests certain RRA techniques close to their limit. It seems most appropriate as a way of collecting qualitative information on local people's perceptions to be fed into national planning processes, which may challenge the conventional wisdom and open new lines of enquiry. The survey design and methodology for this exercise in Chad drew on experiences of food security surveys carried out at sub-national level in Darfur, Sudan, based on semi-structured key informant interviews (Buchanan-Smith and Young, 1990). It also drew on a 'Rapid Food Security Assessment' exercise which had been piloted at the national level in Sudan (Maxwell, 1989) as well as on well developed RRA and PRA techniques (McCracken et al, 1988). The survey was carried out between June and September 1991.

Background: The National Food Security Programme in Chad

Following the famines in Africa in 1984/85, FAO agreed to support pilot exercises in national food security programming in Chad, Niger, Tanzania, and Zambia. Three concepts formed the food security planning approach:

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²A full account of the survey approach and the results can be found in the BIEP/FAO report, *Comment les Tchadiens Perçoivent Leurs Problèmes de Sécurité Alimentaire*. An earlier version of this paper was presented to a seminar at IDS on 30th January 1992. The paper has benefited from the comments and discussion provided by IDS colleagues at that seminar, and from the comments of Chadian and FAO colleagues involved in the National Food Security programming process.

- (i) the availability of staple foods;
- (ii) the stability of supply of staple foods;
- (iii) access of consumers to staple foods.

In each of the countries some variations were made in how the programmes have been implemented. For example, only in Chad and Niger have national level surveys been launched to try and understand how people perceive their food security problems themselves and the solutions they propose. The final output of each of these national programming exercises is intended to be a range of alternative, and costed, strategies to achieve food security, from which national government can select its own policy options.

National food security planning in Chad has been hampered by a lack of reliable statistical data at national level (although several micro-level studies have been carried out and considerable local level experience exists of food security problems and of various interventions, particularly amongst NGOs).

So far, the process of programming and consultation had mostly taken place in the capital, amongst government staff. There had been very little consultation at the grassroots level. It was agreed that a nationwide survey should be launched to find out how people perceive the food security problems they are faced with in their daily lives, and the solutions they seek. The scale of the survey was ambitious and the time available was limited, as the survey was to feed into a national planning process that was already underway.

Survey Design

Informal, Qualitative Survey Approach

An informal survey approach was chosen for a number of reasons. Firstly, the survey was intended to be as participatory as possible. Secondly it was to be carried out in about three months with limited resources, with a team of about 13 survey enumerators (female enumerators were recruited locally to ensure there was at least one woman in each team). A formal survey based on statistical sampling would have been impossible with such limited resources on that timescale. Thirdly, it was agreed from an early stage that the results would be mainly in qualitative form. The formal survey does not lend itself to this kind of output.

Coverage and Case Studies

There are 14 préfectures in Chad, all to be included in the survey. (In the end two were omitted, partly because of logistical difficulties). Within each préfecture, the survey was designed according to the principal production systems to ensure some generalisation of the food security problems and solutions raised. During 'scene-setting' meetings with the local authorities in each préfecture, the principal production systems were identified, and a 'representative' village purposively selected for each production system. The survey was then carried out according to a case study approach based on each of these villages - 55 in all.

The Semi-Structured Interview

The team spent about one day in each village, carrying out semi-structured interviews at two different levels. The group interview was designed to be as open as possible to permit the follow-up of any relevant points, yet was guided by a checklist of questions to ensure some degree of standardisation. (See Table 1). The interview or discussion was about general conditions in the village. Several interviews at the household level were then carried out, on the same basis, to check the information gathered in the group. Household interviews were particularly oriented towards women in the village, as they were rarely represented in the group. The views of women were most successfully recorded where there was a female enumerator who could talk to the women in private, in their own homes, whilst the group interview with the men was going on.

A wide range of subjects was covered, partly to gather background information on food security conditions and status, and partly reflecting the huge scope of issues which are relevant to food security. Topics discussed included population, details of the village economy, food consumption patterns, and health and water facilities. At the end of the interview, the villagers were asked to prioritise the problems pertaining to food security which had emerged during the discussion, wherever possible to explain their current coping strategies, and to propose the solutions they regarded as most appropriate. (See Table 2 for an example of the summary table used to record the problems and solutions). To cover inter-annual variation, three years of different weather conditions were used as reference points for triangulation during the interviews: 1987 as an example of an average year for rainfall in the country, 1988 as an example of a good year for rainfall, and 1990 for low rainfall conditions. The assumption being made is that food security status in general is closely related to annual cereal production, in turn determined mainly by the level and distribution of rainfall.

At the end of the village visit, the survey team regrouped for a 'brainstorming' session to discuss their findings, on the basis of which a short village case study was prepared. Partly because of lack of time, there was unfortunately no feedback from the team to the village about what they thought they had learnt, and their conclusions.

The Survey in Towns

The survey was also carried out in several towns, with a modified approach. In a preliminary meeting with the town authorities, different groups in the urban population were identified. Several households from each group were then interviewed individually (group interviews were not possible in the urban context), using a slightly different checklist of questions. The same ranking exercise of food security problems and solutions was carried out.

Training of the Survey Team

Most of the enumerators were from the *Bureau Inter-ministerial d'Etudes et de Projets* (BIEP) in N'djamena. They had been involved in earlier stages of planning for the NFSP, and were very experienced in formal survey work. But this was their first introduction to RRA/PRA and to informal survey methods. Training was initially classroom based, to introduce the concepts, approach and reasons for RRA/PRA. A French translation of some of the key IIED materials

proved invaluable for this, and for the English-speaking trainer to become acquainted with the terminology in French. The group drew up the first draft of the checklist of questions together.

This was followed by training in the field. Villages close to N'djamena representing different production systems were selected. Training in quite large groups of enumerators was carried out, by going through the whole process of group and household interviews, brainstorming and writing up. Only at this point did the whole approach begin to make sense to some of the more sceptical enumerators who were strongly rooted in more formal and structured survey traditions. During the village training, the checklist of questions was modified, again as a group effort.

The main problems was lack of time, especially in the field, which meant that some potentially useful techniques during the group interview, like seasonal calendars, were never properly incorporated. They were regarded with some scepticism by the survey team. The main transition which was successfully made during the training was from the structured questionnaire to the semi-structured group interview, introducing ranking techniques. It would have taken longer for diagrammatic and visual techniques to have been fully incorporated, although these could have been extremely valuable.

Analysing the Results

In the first stage of analysis, the enumerators prepared the village case studies using a standardised format, to organise all the qualitative information they had collected in the different interviews. An enormous bundle of over 40 written, and quite detailed, case studies was the result. (Some villages were grouped together in this first round of analysis).

The final analysis required the assimilation of all this material into a form useful for national planning. Key to this process were several long meetings with each team of enumerators to discuss the results and to ensure that the knowledge and experience they had gained during the survey were fully incorporated. Another key to facilitating the organisation of this huge and unwieldy amount of data was using techniques to summarise information concisely and sometimes visually. Seasonal calendars were constructed for each préfecture (attempts to use seasonal calendars during the interviews having failed as described above). Tables summarised the frequency with which different problems and solutions were raised, and how they were prioritised by the villagers. In Table 1, the frequency with which a problem has been raised is expressed in terms of the number and percentage of villages identifying the issue. According to where the problem occurred on the villagers' list of priorities, the average position during ranking has been calculated for the group of villages considered in each table, according to a simple scale and scoring system. If the average is less than 2, the problem has been ranked priority number '1', if less than 3, it has been ranked priority number '2', and if 3 or more, then priority number '3'.

The large amount of background information collected on the rural economy, recent changes, food security status and coping strategies was written up to place this prioritisation of food security problems in context. Villages in préfectures were grouped together into five zones: the Sudanian zone, four groups of préfectures with complementary production systems in the Sahelian zone, and Chari-Baguirmi as the largest and most diverse préfecture alone.

The analysis has been based on a process of reductionism as the information has been progressively summarised at each stage. This does not do justice to the complexity of food security issues expressed by the local people, but is an inevitable consequence of organising the information for use at national level.

What We Found Out

Despite the diversity of livelihood systems and agro-ecological zones, some common themes emerged. First of all, many rural people were preoccupied with the decline in the traditional components of their livelihood systems, especially during the last decade. The 1980s have been difficult with war, severe drought and a rinderpest epidemic. The overall impact seems to have been greater emphasis on staple crop production. For example, pastoralists who have lost most of their herds, especially in the north, have become settled cultivators. Fishermen facing declining fish catches are spending more and more time in cereal crop production as a source of food and to replace lost income. Dissatisfaction with existing water facilities and with primary health care services also emerged as a very widespread concern over the whole country, commonly as problem number 2 or 3.

The results have challenged some conventional thinking in N'djamena about rural development priorities. The key is widely believed by donors and government to be developing and promoting free market systems for agricultural produce, which will in turn release the production potential. The villagers have articulated their difficulties rather differently. They have given highest priority to their agricultural production problems, very often related to staple crops, and marketing problems have occurred much further down their list. The overwhelming evidence is that rural people are aware of simple methods and technologies to increase their production, but they are frustrated in their attempts to do so because of lack of availability of those technologies and especially lack of means to acquire them., Thus, there was a very widespread demand for credit, for example for ploughs and oxen for animal traction, for improved fruit and vegetable seeds, and for more efficient means of irrigation of *wadi* soils. The implications are for a twin tracked approach to development: developing agricultural marketing systems and production.

In summary, three categories of préfectures have been identified:

- where the primary objective of households is to expand/diversify staple cereal production through improved means of production, both for their own consumption and sometimes as a cash crop. Unexploited potential has been identified;
- where households are preoccupied with protecting their existing staple crops (for example against drought and pests) - their overriding aim is damage limitation, especially in the north of the Sahelian zone;
- where households place greatest emphasis on increasing production of non cereal cash crops like fruit and vegetables, especially in the east in *wadi* villages where dune agriculture is highly variable.

Advantages

With limited time and availability of resources, an RRA/PRA approach permitted a survey of this scale to be carried out with very wide geographical coverage. Only this kind of informal survey approach could have enabled people's views to be incorporated into a national level planning process. This represents a very important, and quite unusual attempt to consult local people when formulating a national programme. Some of the results which have challenged commonly held viewpoints are evidence of the significance of this exercise. It has provided concrete suggestions to discussions that have been going on in the national capital about strategies to promote food security, which stuck at a rather general level, and lacked the necessary detail to be translated into action.

Practical Problems and Trying to Overcome Them

Some practical problems were encountered, although not all are exclusively associated with an informal survey methodology.

- Enumerator bias influenced how villages identified and described their problems relating to food security, for example according to how questions were posed and the language the enumerators used. This also affected how the problems were relayed in the case studies. Meetings with the enumerators helped to identify and compensate for their bias, especially in how they had interpreted information gathered during the village visits, and how they had written it up. Some group discussions were reconstructed to tease out the different possible interpretations, and recall points raised by the villagers which the enumerators had not written down because they were too obvious, or seemed unimportant. It was most difficult to compensate for enumerator bias in terms of how questions were asked at village level.
- Most of the enumerators were government employees, which influenced the kinds of responses the villagers, gave, particularly the solutions they proposed, many of which were orientated towards state intervention. There were relatively few ideas on community-based interventions. It is very hard to see how this particular problem could be overcome, without spending much more time in the villages.
- With hindsight, training of the enumerators could usefully have been longer, and more village-based, in particular to try and make better use of visual and diagrammatic PRA techniques.
- Carrying out the survey during a drought year when many people were facing urgent and immediate food problems, and a relief operation was underway, undoubtedly biased the results towards short term crisis problems. This often

prompted the demand for immediate relief food aid (although people's vulnerability to food insecurity was easier to assess in such conditions).

- Coverage of transhumant pastoralists was scanty - locating these groups was difficult because the timing of the survey coincided with their seasonal migration.
- Triangulation using three different years of rainfall was useful, although there was sometimes confusion because the years selected were not consecutive (1987, 1988 and 1990).
- Analysis of a huge amount of qualitative information was an enormous and sometimes overwhelming task. It was difficult in advance to anticipate how much information would be gathered, or to impose too rigid a ceiling on the length of the village case studies prepared by the enumerators for fear of losing valuable information. Constant summarising and ranking were required to bring it under control. It seemed most useful to do this in stages: firstly, asking the villages to rank and prioritise their food security problems; secondly, asking the enumerators to rank and summarise information into pre-determined tables and diagrams; and in the final stage of analysis summarising and ranking once again at the most aggregated level by zones of villages. However, there were always more detailed notes supporting each process of summation which were very important to refer back to when necessary. Despite wanting to have the process of analysis sewn up from the start, it was important to be flexible and open-ended, leaving some decisions about how the information should be analysed until the final writing up. It was clearer then what kind of information it had been possible to amass, although this meant extra stress at the end.

Disadvantages

- Most of the disadvantages are associated with the large scale of the survey. The villagers were being asked to prioritise the main difficulties they faced with respect to food security usually during a single meeting. As there was no opportunity to discuss issues or interventions in depth the results were sometimes superficial. (This compares with, say, the lengthy process of consultation which normally precedes the setting up of a new development project).
- It was likewise hard to differentiate between different socio-economic groups, especially between rich and poor households, except at a very general level.
- The huge scope of issues relevant to 'food security' led to wide-ranging discussions and problems.

Conclusions

This exercise represents a new dimension to national food security planning by trying to incorporate local people's views explicitly. Certain lessons have been learnt from this first attempt:

1. Very similar results emerged from villages in the same agro-ecological areas. This implied that fewer villages could have been selected, and more time spent in each village which would have given more detailed and satisfactory results.
2. Especially if fewer villages were surveyed, wealth ranking could be used to differentiate socio-economic groups in the village. This could be very important to know how the prioritisation of food security problems differs between groups. Similarly, more attention could be paid to how prioritisation of problems differs between men and women.
3. RRA/PRA techniques and approaches have been developed for micro-level studies, working from the grassroots. Wherever possible, this kind of survey should be carried out consistently in that manner. For example, rather than sending out enumerators from the national capital, ideally an approach should be built up from district or préfecture, to national level. This would involve local government staff who are most likely to be the ones directly responsible for implementing some of the interventions planned as a result of the survey. However, there is still a strong argument for also involving central government planners, who are involved in the process of national level planning.
4. Tapping the expertise of local development workers is always a challenge in a rapid exercise of this kind. There is a better chance of doing so, however, with a decentralised approach to the survey design and to implementing it as recommended in (3) above. Efforts should be made to involve knowledgeable and experienced NGO staff at local level throughout the exercise, particularly to calibrate the results.

There is always a danger that the RRA/PRA bandwagon can run out of control, being used to justify very rapid surveys whose results are given credibility beyond what the methodology dictates. "Exploratory RRA" approaches were originally promoted as alternatives to lengthy and costly formal surveys, to provide some initial results quickly, which could then be followed up with more detailed work, which is better focussed as a result of the preliminary exercise (McCracken et al, 1988). The survey in Chad has produced some illuminating findings quite cheaply and very rapidly. But it has also raised a lot of questions which deserve much more detailed study: for example, why wasn't livestock restocking identified as a priority issue in areas where pastoralists have lost their herds, or land tenure a problem where there is known to be very limited cultivable land? At some point during the planning process these questions and clarifications have to be followed up with more detailed and in-depth investigations as the results are translated into policy and interventions.

There is important follow-up work to be done, testing the accuracy of the results of a rapid survey of this kind with more in-depth village level work in some of the same sample villages. A 'food security' study poses special challenges because of the very wide range of subjects and topics that have to be covered. Much more work is still required to try and refine and develop RRA/PRA techniques to these special needs of a food security survey.

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Table 1. Example of Villagers' Prioritisation of Food Security Problems: Quaddai and Biltin Préfectures

Problem	No of Villages Raising Problem	% of Villages	Overall Priority	Solutions Proposed
1. Famine/decline in cereal production	6 out of 12 (As problem No 1 5 out of 12)	50% 42%)	1	Short-term food aid; long term, development of market gardening and improved means of production (see below)
2. Pest damage to crops	5 out of 12	42%	1	Improved plant protection services (DPV); traditional plant protection methods
3. Lack of water points for livestock	1 out of 12	8%	1	Construction of more water points, especially in north
4. Lack of access to improved means of production	8 out of 12	67%	2	Agricultural credit; improved fruit and vegetable seeds; small dam construction for flood retreat cultivation; extension of the 'houe occidental'; motor pumps
5. Lack of drinking water	6 out of 12	50%	2	Construction of new wells; preference for open wells; improved borehold maintenance systems
6. Lack of primary health care facilities	8 out of 12	67%	3	Village dispensaries
7. Lack of cereal seed	4 out of 12	33%	3	Distribution of cereal seed by ONDR
8. Inadequate road infrastructure	3 out of 12	25%	3	Road construction (especially feeder roads)
9. Constraints to marketing fruit and vegetables	3 out of 12	25%	3	Formation of producer marketing cooperatives with own means of transport
10. Lack of veterinary services	2 out of 12	17%	3	Mobile veterinary teams
11. Lack of extension services	2 out of 12	17%	3	Assistance with creation of village cooperatives (by ONDR); more ONDR extension agents
12. Instability of cereal markets	1 out of 12	8%	3	ONC abandon role as 'market stabiliser'

PRINCIPAUX PROBLEMES DE LA SECURITE ALIMENTAIRE ET LES SOLUTIONS POSSIBLES				
Village:	Préfecture:	Principal Système de Production:		
PROBLEMES (Lister par thème et par ordre d'importance)	CAUSES	STRATEGIES D'ADAPTATION EMPLOYEES	SOLUTIONS POSSIBLES	
			Villageois	Equipe BIEP

6. COMMUNITY PARTICIPATION IN SMALL AND BIG VILLAGES

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Community Participation

Community participation is considered to be the acid test for the success of any rural development programme, sponsored either by the government or non-government organisations. The success or failure of several rural development projects is directly linked to active or lack of community participation, as making the community take part in the development process is not merely considered as a means but as an end in itself. Conceptually, it refers to the process by which the people involve themselves in analysing the local situation, identifying major problems, formulating action plans, mobilising locally available resources, executing development projects and monitoring and evaluating projects in order to assess the benefits extended to the community at large, or specific target groups, during a given point of time.

We had been using the conventional method of visiting the community, holding group discussions and organising mass meetings in order to ensure the participation of the community in the process of problem identification and plan formulation. Later, scientific social surveys were conducted among individual households through structured interview schedules and other tools for accomplishing the above objectives. Recently the use of PRA, Participatory Rural Appraisal, has grown precisely to perform these tasks systematically.

Participatory Rural Appraisal broadly aims at enabling the rural people to assemble together, analyse their past, examine their present and envisage their future by assessing their socio-economic and geographic situation, identifying their problems, exploring locally available resources, hammering out feasible solutions and formulating action plans realisable during a certain time span. In the whole exercise, local people constitute the actors as well as the audience, and the outsiders serve merely as observers and at times facilitators, but seldom as intervenors or interruptors.

Diverse Villages

Villages, as a whole, vary in terms of their content and character, with plenty of structural and functional diversities across regions or even within a particular region. There are small and big, homogenous and heterogenous, progressive and poor, cooperative and conflicting, educated and illiterate, and potential and resourceless villages sharing characteristics but at the same time, retaining their individual identities.

Gandhigram Rural University in Tamil Nadu, active in the field of rural extension services, has been organising Participatory Rural Appraisal workshops in different village settings (sponsored by the Ford Foundation). Conducted in the villages of native Anna district, the

PRA Team had occasions to interact with innumerable villages with varied characteristics. During such exercises, we located a particular variable which we presumed, had a linkage with the effectiveness or otherwise of our PRA exercises. This paper sheds light on the experience of PRA in two physically diverse settings viz. small and big villages.

Big is a Bother

Holding PRA exercises in big villages posed various problems. The main problems were:

- dominant caste overrides the exercises;
- participation of the poor in such workshops was less;
- women seldom come forward; even when they did, their participation was marginal;
- problems of the village could not be comprehended in depth;
- mapping and modelling, exercises became too difficult;
- data were gathered and shared; plans were formulated, but they are not followed up and executed;
- there are several kinds of leaders in big villages (formal and informal; political and non-political, traditional and non-traditional and so on). Bringing them round for a common purpose was a difficult task;
- selection of participants from the village posed serious problems. We could not select the participants. Even when we suggested certain broad criteria for selecting participants, a fair representation of all the sections of the village was not given.

Small is Smooth

On the other hand, small villages facilitated a better execution of the PRA exercises. Specifically, they had the following advantages:

- rapport could be easily established;
- factions were less; individuals were closely related to one another; families were well-knit. There was a single line of command;
- fair representation was given to all sections of the people - young and old, poor and rich, men and women, educated and illiterate;
- participation was spontaneous and profuse;
- outsiders were not treated as strangers but with love and affection;
- the confidence of the people could be easily gained. This helped in the collection of more reliable and accurate information;
- exercises like seasonality, mapping and modelling could be done more easily without rushing through.

Ideal Villages

The size of the village is a factor to be reckoned with for effective PRA exercises. Based on our experience of conducting PRAs in about two dozen villages, we suggest the following

criteria for the selection of villages for PRA workshops:

- very big villages may be avoided; instead hamlets may be selected;
- small villages or hamlets with 100 to 200 families, are preferable;
- location of the village may be far away from the urban centre;
- villages which have been untouched by development agencies;
- backward villages, with scope for greater development interventions;
- villages located within a radius of about 20-25 kms. from the base of the change agent;
- selected villages should facilitate frequent follow up, mostly with the initiation of local people;
- households, belonging to the village should be concentrated and not scattered
- leadership atmosphere should be conducive in the village.

The above guidelines were derived out of our constant linkage with the far and near villages where we conducted PRA workshops. Villages which satisfy the above requirements would be ideal settings for PRA workshops.

7. SOME OBSERVATIONS ON WEALTH RANKING AFTER AN RRA LOOKING AT SOIL FERTILITY MANAGEMENT IN NORTHEASTERN ZIMBABWE¹

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In a recent RRA in Mutoko communal area, Mashonaland East, Grandin's (1988) wealth ranking technique was used by a multidisciplinary team to elicit a stratification of households in two villages. The focus of the study was farmers' use of different techniques for soil fertility management. The first part of this article looks in hindsight at the usefulness of wealth ranking for this and other applications in the field of natural resource management. The second part of the article details some errors we made with the technique in one of the villages where we worked.

The Wealth Ranking Exercise

The objective of wealth ranking was to achieve a stratification of households in Charewa and Tarehwa based on general economic well-being, so that the team could then examine each stratum for differences in access to and management of resources for soil fertility maintenance. The first week of fieldwork coincided with the National Population Census, and official lists of heads of households in each VIDCO from the pre-census lists compiled in June 1992 were kindly provided by census officials. These lists had some inaccuracies and required considerable verification and amendments during the exercise.

Verification and ranking of households was done with three small groups of informants rather than with individuals as Grandin (1988) suggests. We had asked for volunteers after explaining the objectives of the exercise at a village meeting. We received many more volunteers than we had asked for, and decided to try ranking in groups so as not to have to turn people away. As it happened this worked out rather fortuitously, because we were able to use the groups to verify the list of households prior to ranking. Households that nobody recognised were discarded, whilst participants added a number of households that had been omitted.

The participants divided themselves into three groups. The first (Group A) consisted of two respondents, a married man in his twenties, and one in his fifties. Group B consisted of a widow in her forties, a prominent married man in his fifties, and a young married man in

¹A full description of this exercise is given in a forthcoming report by the above authors, *Socio-economic Determinants of Soil Fertility Management in Mutoko Communal Area, Zimbabwe*, available from the above address.

his twenties. Group C consisted of an old woman in her sixties, a middle aged woman, a young unmarried man, a widower in his fifties and a prominent married man in his fifties. Prior to ranking, each group was briefed separately on the nature of the team's research on soil fertility, and on the value of information about the different problems faced by wealthy and poor people.

Household names were written on three pieces of paper, one for each group. In Group A, a team member read the names out, but in the others the informants took control. One member of Group B helped to explain the exercise to members of Group C when some confusion arose (it should be pointed out that, although the three groups did the exercise simultaneously, there was no discussion of ranking between groups). The different informant group sizes allowed some useful comparisons; whilst the smallest group was fastest, the two larger groups came up with a similar, and larger, number of wealth strata. The larger groups spent more time discussing each household. After sorting households into ranked piles, each group described differences between their piles, or strata, in terms of wealth and specifically in soil management techniques.

Group A identified four wealth strata, Group B identified seven strata, and Group C eight strata. Table 1 is a simplification of the criteria they used to distinguish strata and an attempt by the authors to match criteria across the three informant groups.

Average rank scores were calculated and the households divided into six strata using the method suggested by Grandin (1988). From the average rank scores we found that there was general agreement on households in the wealthiest and poorest groups. The former consisted of households with cattle where the husband worked on the farm. The poorest group consisted of widows and the disabled. A small number of households were ranked as rich by one informant group and poor by the others (although this could have been a result of confusion about whether the group represented richest or poorest at some stage in the exercise).

The distinguishing characteristics of households in the middle strata were less clear. There was a significant amount of variation amongst the rankings of these households. This may have been due to variations in their situations over time, for example in the numbers of cattle held, or presence or absence of the husband, wife or older children. The nutritional status of the family was an important criterion that distinguished households in the three wealthiest strata for informants in Group B.

Discussion

The differences identified between groups of farmers were very useful for the study because they indicated the sorts of differences in the community that local people felt had an influence on soil fertility management. The accuracy of the stratification is demonstrated by some of the results of ensuing interviews with 22 households selected at random from the six different strata computed from average rank scores (the total number of households was approximately 100). Table 2 gives details of household size, livestock, use of inorganic fertilizers and access to dambo gardens amongst those interviewed. Cattle holding was the clearest manifestation of wealth in the criteria described by respondents to differentiate between strata. The importance of cash income was implied for the wealthiest groups, although there were only two direct references to cash income amongst the criteria. Land-holding was probably implicit as a criterion in the ranking, yet it is not clear why this was not mentioned.

Table 1. Comparison of criteria used to distinguish between wealth strata amongst the three groups of informants

Group A	Group B	Group C
1. Have money for all necessary purchases eg. fertilizers, seeds. Have cattle, a house in Harare and Mutoko.	1. Have cattle, a house in Harare and Mutoko. Use inorganic fertilizers. Winter plough.	1. Head in Harare. Cattle. Manure. Fertilizers. Contour ridges prepared.
2. Have cattle. Practise "good" farming methods. Husband resident in Mutoko. Use manure, inorg. ferts and litter.	2. Have cattle. Husband lives in Mutoko. Use manure, inorganic fertilizers. Winter plough.	2. No family member working away. Use manure. Contour ridges prepared.
	3. Old people with cattle. Remittances from children. Use manure but need help to apply it.	
	4. Husband in Harare, but doesn't provide enough for family. No cattle. Lack of manure, fertilizers.	3. Member of household working away. No cattle. No manure. Purchase of fertilizers is not sufficient.
		4. Have cattle. Lack knowledge. Contour ridges prepared. May sell manure.
		5. Have cattle. Get low yields. Not good farmers. No fertility management.
3. No cattle. No inorganic fertilizers. Use leaf litter. Winter plough stover.	5. Husband in rural areas. No cattle, usually no manure.	6. No cattle or manure. Men do casual local labouring. May purchase fertilizers.
4. Poorest. Widows and handicapped. No livestock. Use leaf litter.	6. Widows. No cattle, implements. Little or no soil management.	7. No cattle. Widows and widowers. Use compost and stover. Maintain contour ridges.
	7. Handicapped. No soil management.	8. Invalids. No soil management.

Table 2. Some characteristics of households interviewed in Charewa 2.

Stratum	Number of households	Average number of adults	Livestock on farm ¹	Average number of cattle	% with garden	% using inorganic fertilizers 1991/92
I and II	4	2.5	C,G,Ch,P	7.0	100	100
III	6	4	C,G,Ch,P	4.17	83	100
IV	5	4 ²	C,G	1.2	80	75
V	3	? ³	P ⁴	0.3	100	0
VI	4	2	- ⁵	0	25	0

¹ C:cattle; G:goats; CH:chickens; P:pigs

² Data for four households only

³ Only recorded for one household

⁴ One household had only one cow, two goats and a few chickens

⁵ Only one household had a goat, another had a few chickens

The stratification provided a useful framework for further interviews. However, these raised more questions about what characteristics people considered when discussing wealth. For example, the criteria elicited to distinguish between households (Table 1) focused on visible wealth such as housing and livestock, but ignored atypical sources of income (one respondent received income for prophesying at apostolic gatherings). In a few cases we found that support from wealthier kin was overestimated, resulting in higher rankings for younger households which simply did not have the resources of older households in the same strata. In an opposite sense, we came across three cases where individuals, two widows and a widower, were ranked in the lowest strata when clearly they were considerably better-off in terms of food and income security than their counterparts. All three were somewhat distinctive in that they all had strong personalities, emphasized traditional, well-trying, soil and crop management techniques, and tended to do their own thing, often different from other people's practices or views. A further problem was that the rankings appeared to ignore recent drastic changes in livelihood or status, especially widowhood. This might mean loss of livestock and access to a dambo garden for a woman, and certainly difficulties in acquiring sufficient labour for soil and crop management or a reduced cash income.

After the exercise one observer commented on what he saw as an undue emphasis on wealth differences. Certainly differences in wealth did not explain all the differences in practices which we observed amongst the households interviewed in depth. The three individuals listed above, each adhering to long-trying techniques, were a case in point. We might have used other criteria by which to stratify households, such as knowledge or labour availability. Nevertheless, given that this would have required considerably more time to explore, we feel that the framework provided by wealth ranking gave us a good start. Our detailed findings from households, reported elsewhere (Carter, et al 1993) raised a set of much more informed questions about soil fertility management that now need to be pursued in greater depth and over a longer time period.

In presenting our findings to local people at the end of the exercise, we chose not to emphasize the differences in wealth, but rather the diversity of situations we had found amongst the households we had interviewed. The wealth differences were clear enough to our respondents. Research that tries to assist people to increase the quality of their resource base needs to build on common problems and similarities in people's situations. A focus on the problems of people without livestock, might generate new management alternatives useful to all. The reverse, a focus on livestock holders, has dominated research on soil fertility in Zimbabwe to date, and has failed to address the situations of a significant number of households.

Wealth Ranking Gone Wrong

Having had a successful wealth ranking session in Charewa, we decided to do another in Tarehwa. Two groups of informants were identified by members of the team, and agreed to do the exercise. This worked quite well, but at least three sets of scores are necessary to give a reasonable average, and some team members had to return later to identify more informants. Two teams of two and three returned to Tarehwa, in the hope of finding informants on an opportunistic basis to do the wealth ranking there and then.

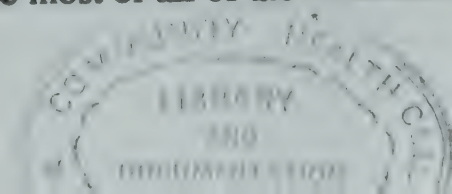
We stopped at a homestead by the roadside where three old men were having a chat. One immediately left. We explained to the others that we were interested in how people there maintained soil fertility, that we had been in the village for a while, had held some meetings with villagers and walked across the valley with some of them. We were now interested in interviewing individual farmers in order to gain an in-depth understanding of how different people managed their soils. Before we could select individuals to interview we needed these two gentlemen's help to divide villagers into groups of people with similar resources for and problems of soil management.

The two old men looked at each other and mumbled something to the effect that they would not know the wealth status of anybody but themselves. Despite repeated explanations that we needed the stratification in order to help us to select households to visit for individual interviews, they were unwilling to cooperate. We began to think that perhaps they were unwilling to do the exercise together. We then politely asked one to leave, and remained with the owner of the household who then agreed to help us.

We showed him the cards containing the list of villagers and asked whether he wanted to read them himself or whether he wanted us to read out the names. He opted for the latter. We explained how he should place households into piles according to similarities and differences in their wealth. However, the old man claimed not to know, or not to know enough about half of the households in the pile. He put those he did know (about thirty-five) into ten classes. Three of these had only one household in them.

We then asked him to rank the classes in order of wealth. This he totally refused to do. He said that we had asked him to group people into categories depending on their resources. This he had already done. The ranking of the classes was for us to do!

With only half of the village list classed, and with the classes not ranked by the informant, we could not use the results. We had wasted our time and that of the old man. We thanked him and reshuffled the cards. Before we left we asked if he knew anyone who could help us with the ranking, preferably someone who could recognise most or all of the households on the list.



His answer was simple: "That's your job, isn't it?"

We wouldn't give up easily. We drove a short distance down the road and stopped at a garden. There was a friendly young woman who we had met at a village meeting a few days before, and had given her a lift to a grinding mill. She seemed like the perfect person to help us.

She was willing to spare us some of her time. We went over the same explanations that we had given the old man. She sounded more eager to participate than him. However, we decided to check first how many of the households listed on the cards she knew. We went over the list and discovered that she knew less than a quarter of those we read out. There was no point in going further. We asked her why she did not know many of the households and found out that she had married into this village only three or four years previously. By then she had become uneasy about the exercise, and repeatedly asked where we had got the list of households. We explained how we had got them, and told her again why we needed them.

This episode has a number of clear lessons. Firstly, prior arrangement with local people to do the wealth ranking reassures people, and helps to identify those willing to participate. The village meetings in Charewa were good opportunities to do this. Secondly, working with groups of informants was more productive than with individuals, simply because people were able to remind each other about households that they did not recognise (names on the cards were often incorrect) and together knew more about the circumstances of a larger number of households. Thirdly, it was more reassuring for people to work in a group; wealth is, after all, a sensitive topic. Nobody had previously done any research in either of the two villages, and we underestimated the length of time it would take to gain people's confidence.

8. WEALTH RANKING FOR AGRICULTURAL RESEARCH PURPOSES IN THE EASTERN HILLS OF NEPAL

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Introduction

RRA Notes are received with much interest here. The presentation of novel approaches to, albeit, often old problems, makes for an entertaining read. On the other hand, we are also of the opinion that many of the contributions to RRA Notes tend to concentrate far more on the methodological and procedural niceties of PRA/RRA exercises than, say, the uses to which the information has subsequently been put. To some extent this is understandable. For many, RRA/PRA provides a novel range of methodologies, frequently capturing this enthusiasm for the new and innovative.

Here we describe briefly our recent attempts to carry out wealth ranking exercises in two districts of eastern Nepal. The first part of the paper concentrates on those methodological and logistical issues referred to above. Judging these aspects alone, the exercises were a success. The second part of the paper looks more critically at some of the issues that are now being faced in trying to utilise gathered data. Here, we have neither failed nor succeeded since it is early days yet. By making apparent some of our concerns regarding the application of data derived from RRA/PRA techniques, we hope to elicit a response from other practitioners who have faced similar difficulties. (See Joshi and Rai, forthcoming).

Pakhribas Agricultural Centre and Farmer Outreach

Pakhribas Agricultural Centre (PAC) is responsible for agricultural research in the 11 hill districts of eastern Nepal. The agricultural production systems in these areas are complex, diverse and predominantly resource poor. The production of improved agricultural technologies necessitates a research planning process which is responsive to variations in both the physical and socio-economic environments.

PAC was established in 1973 and has over time developed a better understanding of the determinants of farming strategies, including the differential access to resources of farmers living within the same physical environment. It is believed that this will enhance PAC's ability to produce appropriate technologies.

A critical input to this process is the identification of different farmer clients and their respective problems and priorities. The Social Research Group at PAC is currently attempting to develop existing notions of recommendation domains, defined on the basis of agro-ecological criteria, in order to reflect variations in the access of farmers to resources.

Promising agricultural technologies are first tested and modified, if necessary, at PAC's on-station and on-farm sites; both stages of testing are managed primarily by members of the research staff. The potential of a technology is determined mainly in terms of its physical and economic viability. If approved, the technology is then passed to the Outreach Programme for assessing its acceptability among farmers.

The Outreach Programme has three immediate objectives:

- farm-level technology verification under prevailing biological and socio-economic conditions;
- the provision of feedback information from farmers and extension agents to PAC research staff regarding the use, adaptation and adoption of PAC technologies;
- improving existing collaborative links between PAC and the district line agencies and non-government organisations for the purposes of research planning and technology verification.

These objectives aim to improve the understanding among PAC staff of the appropriateness of existing recommendations, indicate where modifications might be necessary for greater farmer acceptance and, ultimately, provide guidance regarding the direction of future research projects.

The Outreach Programme is relatively new, having started in July 1990. It is, however, fully integrated with the National Outreach Research Programme. To date, the Programme has been operating in seven out of PAC's 11 designated districts. The process of technology generation and the potential pivotal role played by the Outreach Programme is illustrated in Figure 1.

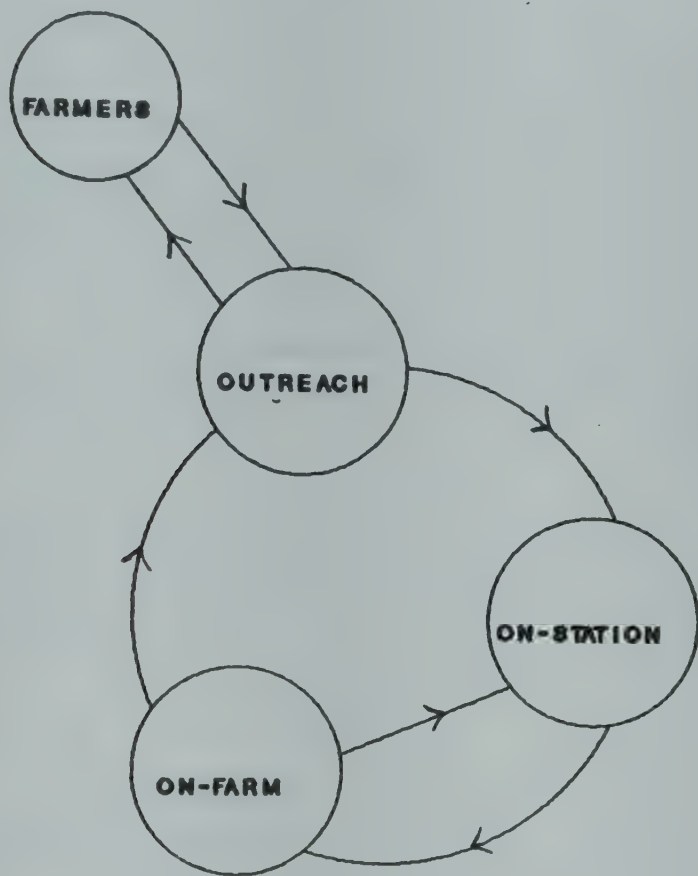
Given the logistical problems associated with having to support research activities scattered throughout the hill areas, it is considered impractical to operate the Outreach Programme in all parts of each district. Instead, representative sites have been selected for the verification of PAC technologies (Joshi et al, 1990). At each Outreach site, participant farmers are identified and provided with a new crop/variety or animal/breed for testing. The performance of that technology and its use by participants are monitored by Outreach Programme staff based in each district. Findings are reported back to PAC during the course of the 'trial' period.

Until recently, one of the major weaknesses of the Outreach Programme has been its concern mainly with the physical merits of a particular technology. There has been only a limited attempt to understand the relationship between farm household type and technology acceptance, but this has not been done systematically.

At one extreme each farm household is unique, but clearly it is difficult for PAC to act on the basis of this level of diversity. A more pragmatic response is to attempt to categorise farmers on the basis of relevant shared characteristics in such a manner as to enable research agendas to be formed upon the bases of these. Wealth ranking as developed by Grandin

(Grandin, 1988), was thought to be a likely method whereby these farmer-determined categories could be identified and developed.

Figure 1: Representation of the process of agricultural technology generation at PAC



The Wealth Ranking Exercise

The wealth ranking exercise was conducted at the Outreach sites in two Koshi Hill districts, Terhathum and Sankhuwasabha. Each site is located in a Village Development Committee (VDC) which is made up of nine wards. Given that one VDC can consist of between 500 to 1,000 farm families, the rankings were undertaken on a ward basis. In each ward four to ten key informants were selected by local technical assistants to participate in the exercise.

Following the introduction of team members and a briefing on the objective of the ranking exercise, an important 'ice-breaking' part of the process was the updating of the voters' lists. Existing lists were checked and local names substituted for the official record where the individual was more generally known by his/her nickname. This procedure often resulted in great hilarity as local names were revealed. The opportunity to provide information to PAC researchers appeared to lend confidence to the participants.

Card sorting started by dividing the key informants into two groups. Each sub-group was requested to make piles of cards based on their understanding of the differences between categories of villagers within a ward; across rankings, the number of piles varied between three and nine. Discussions were then held with each sub-group about the basis for their categorisation of farm families. Finally, the two sub-groups were brought together for a

round-up discussion to compare differences in their preliminary ranking of cards and for the compilation of a single, overall ward set of farm household categories.

Group interviews arranged on a household category basis were conducted the following day in each ward. These discussions were to verify as far as possible the key informants' initial rankings and to identify issues of concern to specific groups of households.

Lessons Learned

This was the first time that many of the researchers had conducted a wealth ranking exercise. Its successful implementation was encouraging, although perhaps not so surprising given the Centre's long experience of using the *Samuhik Bhraman* - interdisciplinary group treks - as part of its farmer-oriented research strategy (Chand and Gibbon, 1990). Although the composition of the teams changed between the two districts to expose more staff to wealth ranking, experiences gained from the first attempts at wealth ranking were used to modify subsequent approaches.

Upon returning to PAC, members of the two survey teams discussed the outcome of the fieldwork and areas for future improvement and further consideration. Firstly, a number of issues were raised regarding the practical aspects of applying wealth ranking. These are described briefly below.

a. *Use of Secondary Data*

It was agreed that a better review of available secondary sources of information, including anecdotal knowledge of local field staff, would enhance the quality of the wealth ranking exercises. Notwithstanding the need for open-mindedness, team selection would be improved since representatives of those disciplines which appeared to be of particular importance could purposefully be included.

b. *Key Informant Selection*

This was identified as a weak point. Although women farmers appeared to take an interest in the card sorting, none had been formally invited as key informants. It is not clear, however, whether the inclusion of women in mixed key informant groups would be the most effective way of eliciting the specific views of women. A number of possibilities for improvement exist which will be tested in the next phase of research:

- although aware of the dangers there might be for marginalising women's issues, ensure that female researchers are included in the survey teams;
- simultaneously conduct a wealth ranking exercise using only women as key informants;
- attempt to identify more confident females as key informants.

Similarly the eastern hills of Nepal contain a wide variety of ethnic groups although little explicit consideration was made of this in the wealth ranking exercise.

c. *Team Selection*

As mentioned above, existing information can be used to guide the selection of team members to ensure specific research disciplines are included. However, care is required to ensure that by doing so the results of the exercise are not, in effect, pre-determined.

d. *Household Name Checking*

On average this took between three to four hours for each ward. While recognising that it is useful for establishing rapport between farmers and researchers, it could usefully be done in advance by local staff. At the same time such staff could use the opportunity to discuss major areas for concern with key informants to enhance further the team selection process.

e. *Key Informant Briefing*

There is always the danger that the briefing can bias key informants' responses. To minimise this risk, particularly as more staff use wealth ranking and other such tools as part of their research activities, it will be essential to ensure that the philosophy, and not the methods per se, of participatory research are well understood.

f. *Key Informant Discussions*

The division of key informants into sub-groups worked well. However, the subsequent merging of the two card sets into a unified ward ranking did not appear to further the researchers' understanding of key issues.

g. *Key Informant Expectations/Feedbacks*

There is little doubt that the arrival of a team of highly qualified scientists in a ward raised the expectations of farmers. Even before this, there was no control over what was said about the impending exercise by those requested to invite key informants and farmers for the discussions. This problem can be mitigated with a carefully prepared briefing (see item e above) and, in follow-up interviews, by encouraging farmers themselves to work through solutions to problems that they raise. It was also felt that in future, copies of PAC agricultural bulletins, produced for the government extension service, could be distributed to emphasise the extent and limitations of PAC's work.

No attempt has been made so far to report back the outcome of the wealth ranking exercise and subsequent group interviews to the local people, partly because we feel that we need more time to assess what we can do with the data collected. Follow-up visits will be made during the next season. If a real sense of participatory research is to be encouraged, it is essential that farmers are given the opportunity to respond to the initial analyses made by the research team.

The Interpretation and Application of Wealth Ranking Data

The Outreach Programme is conducted across all nine wards of a VDC. Farmers are presently chosen on the basis of the altitude and aspect of their farm site; two criteria which allow for inter-site comparisons.

Preliminary results from the exercise suggest that farmers used 'food availability' as the basis for the classification of farmers. 'Food surplus' farmers were perceived as being in the top category, heavily 'food deficit' households made up the bottom group. The number of categories defined and, in some cases, the parameters that farmers used to define 'food availability' varied from place to place.

Accepting that 'food availability' was regarded by farmers as the most appropriate basis for categorisation, the question which then arose was how to ensure that a category 'A' farmer in one ward might not be a 'B' farmer elsewhere. Two options appeared open to us. One was to use the farmers' categorisations on a ward-by-ward basis, accepting that, in some areas there may be four categories, and elsewhere seven. This would have meant that direct comparisons between, say 'A' farmers in one ward and 'A' farmers in another would not be possible without further data. The resulting 'inconsistency' of feedback information offered by Outreach to the Centre's technical sections would have made it difficult for them to incorporate 'trial' results in their research planning activities: the data would be too site specific.

The other main option was to accept the idea of 'food availability' as a starting point, acknowledging our limited understanding of the underlying processes of production. For the practical purpose of managing the flow of information from Outreach farmers back to the Centre, our own definitions would then be applied; say, for example, four categories ranging from food surplus, food sufficient, one to six months deficit and more than six months deficit, or whatever. This would allow for cross-site analysis and facilitate the provision of more easily understood Outreach 'trial' results to the PAC technical sections.

We were concerned that the imposition of such a rigid structure, even as a proxy, might distort the original concepts derived from the farmers. The second option, therefore, also necessitated further research to test the assumptions implicit in the approach.

'Food availability', however interpreted, is a reflection of underlying structures of production, in this instance based upon the household. For example, 'food surplus' farmers may derive their surplus from agricultural production or, say, from sources of off-farm income. The further we explored the issues around using the wealth ranking data, the more we felt ourselves to be still at the stage of description, rather than analysis. A more critical understanding of these underlying structures of production is essential if, ultimately, the agricultural research programme at PAC is to be more carefully targeted.

Conclusions

It is essential that the process of conducting a wealth ranking exercise is not seen as an end in itself. On the face of it, asking key informants to sort cards into different piles appears very simple! There is, therefore, the danger that because wealth ranking is perceived as being a tool that is easily applied, and 'results' are, apparently, rapidly obtained, the necessary in-depth understanding of farmer perceptions is not sought. Ironically, as the use of wealth ranking and other RRA/PRA methods grows, researchers may feel that they have become 'experts' in their use. But, as we have indicated above, the real expertise is needed at the stages of data collation, interpretation and application.

We certainly have a great deal more work to do in our attempts to develop meaningful farmer categorisations to promote a better understanding of the specific needs of rich and poor men and women farmers. But however we tackle the issue, we must do so in a manner that is amenable for the planning and development of future agricultural research.

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9. FARMI'S EXPERIENCES ON WEALTH RANKING IN THE PHILIPPINES: DIFFERENT FARMERS HAVE DIFFERENT NEEDS

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Introduction

Farmers of differing wealth will have different problems and needs and varying ability to adopt proposed technologies. Agricultural research and development must take such differences into account to determine research priorities and to develop relevant innovations. In 1990 FARMI/ViSCA started an IDRC-funded Upland Agriculture Project in Matalom, Leyte where we wanted to try out wealth ranking.

We tried two methods of wealth ranking in three upland villages. The first method involved card sorting by individual key informants followed by the researcher's computation of average scores, and making the final grouping of households. Several lessons were learnt and recommendations made to refine the method. Building on experiences with the first method, we tested the second method which also involved card sorting but by group informants. The second method turned out to be quicker and simpler. Moreover, it avoids "don't know" cards and the researchers' subjective judgement in final grouping of households. A few weak points of the method are pointed out below.

Difficulties with the individual key informant method were that the final grouping of households not only involves mathematical computation for the intervals but also requires subjective judgement from the researcher. Therefore, given the same set of average rank scores, different researchers might produce different results for the final grouping of households.

Wealth Ranking by the Group Method

We tested the group method for wealth ranking when we had a PRA (Participatory Rural Appraisal) activity in two upland villages (Altavista and Templanza). We did the wealth ranking by *sitio*¹ for all eight *sitios* of these two villages.

First, we requested local people to gather at an agreed place in the *sitio* at a specific time. The number of people who came varied from *sitio* to *sitio*, ranging from 11 to 20 (Table 1). We started by asking them to make a map of their *sitio* using a piece of plain paper and a

¹A *sitio* is a cluster of houses within a village.

pencil. All houses with names of household heads were shown on the map. While they made their map, one of our colleagues wrote the names of household heads on cards, one name per card. When they finished their map, we also had all the names written on cards.

We then discussed with them the concept of wealth (or well-being) and asked if they could sort the cards into three wealth groups. The term we used in the local dialect was *pagbana-bana sa kahimtang*, which means "estimates of economic status". They suggested local terms for each wealth group such as: *nagkalisod*, *haruhay*, *pobreng haruhay* and *bintaha* for rich; *nagkalisodlisod*, *igo-igo*, and *pobre* for average; and *nagkalisod kaayo*, *lisod*, *pobreng makalooloy* and *menos* for poor.

Each farmer present took some cards and sorted them into three piles according to his/her perception, which they finished in a very short period of time. For the cross-checking, starting with one pile, a staff member read aloud the name on a card for all present to hear and make changes if necessary. They in fact did, by transferring cards from one pile to another.

After the review they were asked to give principal features of the livelihoods of each category. This led into a discussion about the major differences in wealth between the piles. A household-survey-by-wealth-category conducted later (as part of the PRA activity) confirmed the important wealth indicators cited earlier by the group such as house structures, ownership of land and animals, and land size.

Strong Points of the Group Method

- it is even faster than the individual KIs method;
- no "don't know" cards
- no need for computation of score and final subjective judgement by researcher
- in the Philippine setting, it appears that a good gender mix can always be attained even without planning for it (Table 2).

Weak Points of the Method

- no assurance that there is always a good mix of rich, average, and poor households in the group. Table 2 shows that very few from the poorest category attended
- Not all people in attendance may know how to read names on cards
- We observed some feeling of embarrassment of people belonging to the poor group who were present.

Comparing the Two Approaches

Before the PRA, we already conducted a wealth ranking using the individual KIs method in all four *sitios* of Altavista village. This enabled us to compare the results obtained by the two methods. Table 2 is an example from *sitio* Altavista Proper (highest number of

households among 4 *sitios*), showing the similarities and differences in wealth ranking results. As reflected in the Table, the two methods resulted in 75% of the total households having similarity in ranks. Likewise, the two methods did not produce any extreme in ranks (eg. richest by one method and poorest by another). Looking at specific categories, the same Table shows that higher incidence of dissimilarities in ranks occurred in categories 2 and 3, while there was almost perfect agreement in category 1 (rich). These results therefore suggest that it is less difficult for farmers to identify the rich in their community than to distinguish the average and the poor.

Further Reading

Grandin, B.E. 1988. *Wealth Ranking in Smallholders Community: a Field Manual*. Intermediate Technology Publications Ltd. UK.

RRA Notes 4,8,9 and 15. Sustainable Agriculture Programme, IIED, UK.

Table 1. Distribution of participants in attendance by gender and by wealth category

Location	Total No of Households	Total No of Participants	Distribution by Gender		Distribution by Wealth Category		
			Male	Female	I (rich)	II	III (poor)
<u>Templanza (village)</u>							
Tambo (sitio)	81	12	8	4	7	5	0
Alinsuob II	55	19	7	12	14	4	1
Alinsuob I	104	15	9	6	4	9	2
Canhabas	35	16	12	4	7	9	0
<u>Altavista (village)</u>							
Libho (<i>sitio</i>)	19	13	10	3	5	7	1
Altavista Proper	52	12	6	6	6	6	0
Tonggo	33	20	14	6	8	9	3
Tubo-tubo	16	11	3	8	4	7	0

Table 2: Results of Wealth Ranking by Two Methods in Sitio Alavista Proper

Household No ¹	Results of Individual KIs Method		Results of Group Informants Method (3 categories)
	Average Score ²	Final Grouping ³	
1	23	1	1
2	23	1	1
3	31	1	1
4	35	1	1
5	39	1	1
6	39	1	1
7	39	1	1
8	39	1	1
9	39	1	2
10	41	1	1
11	43	1	1
12	43	1	1
13	49	1	1
14	53	2	1
15	57	2	1
16	57	2	2
17	57	2	2
18	57	2	2
19	57	2	2
20	61	2	2
21	65	2	1
22	65	2	2
23	57	2	3
24	69	2	2
25	69	2	3
26	69	2	2
27	73	2	3
28	77	3	3
29	77	3	3
30	77	3	2
31	77	3	2
32	77	3	2
33	77	3	3
34	81	3	3
35	81	3	3
36	84	3	3
37	84	3	3
38	88	3	2

continued ..

Table 2 continued...

Household No ¹	Results of Individual KIs Method		Results of Group Informants Method (3 categories)
	Average Score ²	Final Grouping ³ (3 categories)	
39	88	3	3
40	88	3	3
41	92	3	3
42	96	3	3
43	96	3	3
44	96	3	3
45			3
46			2
47			1
48			2
49			1
50			1
51			1
52			1

¹ Household numbers 45 to 52 were not identified during the wealth ranking using individual KIs method

² Average score was computed by dividing the total score given by 5 individual KIs by 5

³ The final grouping is done by a compromise between having equal intervals $[(96-23)/3]$ and using natural breaks in the average scores. In this case, our subjective judgement is:

23 - 49 : category 1 (rich)
53 - 73 : category 2
77 - 96 : category 3 (poor)

10. PRA: AN APPROACH TO FIND FELT NEEDS OF CROP VARIETIES

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Background

In agriculture, the need for identification of location specific problems and analysing them in their own environment is increasingly felt in research planning. PRA, which is informal in its approach, helps scientists to know about villages quicker than conventional methods through interviews. Understanding the advantages of PRA is giving momentum to its use in Tamil Nadu Agricultural University (TNAU) research planning.

TNAU is the main institute for agricultural research in the state of Tamil Nadu, India. Research in TNAU is planned at the regional level in seven such agro-climatic zones, classified based on soil and climatic conditions. There are seven such agro-climatic zones. With the objective to appraise farmers' varietal requirements, certain PRA methods were used in the high rainfall zone of Tamil Nadu. This high rainfall zone of Tamil Nadu is located in the southern tip of peninsular India.

Overview of the Studied Village

Thittuvilai village was randomly selected for the study. It is situated in the Thoivalai block of Kanyakumari district, about 13 km west of Nagercoil, the district headquarters. The village has one main road. The entire settlement is found on both sides of the main road. To the north of the road are houses; to the south are fields. Paddy, banana, tapioca and coconut are the main crops. The PRA team members met Mr Padmanabhan, the fertiliser shop owner, when he was opening his shop. Then the team took a village transect walk with Mr Padmanabhan. Some farmers also joined the team. The community is located in four streets, running north-south. All the inhabitants of the village live in this area. The settlement is surrounded by facilities such as school buildings, mosque, temple, church, clinic, cinema, theatre and playground. The outsiders or migrants live in the southern side of the main settlement. They are not permitted to construct houses in the main settlement area.

Major Issues

During the discussion some villagers mentioned that the villagers' physique had decreased due to consumption of white rice. Then the PRA team was interested to know more about food habits. The farmers said that local red rice varieties were cultivated until 1970. When they ate red rice they could work until 3pm without getting tired. They feel that the present

day white rice is not very nutritious. When Manoharan asked them to explain this issue further, they brought grains of red rice, white rice and tapioca tubers. These materials were arranged proportionately on a concrete floor to show their food habits.

The old people could recollect the historical changes of the introduction of the high yielding varieties. They explained the historical profile by writing on the cement floor using chalk. That profile brought out the following key information:

1. Local rice varieties such as *Vasamunda* and *Samba* were grown until 1970;
2. High yielding varieties were introduced in 1970. Now *Ponmani* and *ASD 16* are much used;
3. The early 1980s witnessed massive cultivation of banana, which even occupied part of the rice growing area.

Thus, the major issues for research planning were identified as varietal requirements in paddy and banana.

Matrix Ranking for Paddy and Banana Varieties

A few farmers witnessing the historical profile, explained that *ASD 16*, *TKM 9* and *Keela Samba* were the main varieties. These varieties along with key characters were compared through matrix ranking. Among the three, *ASD 16* was ranked first because of high yields (grain and straw), non-shedding and short duration. Straw yield was also considered as one of the important characteristics because of the fodder value. For matrix quantification rice grains were kept in small circles (Figure 1). The matrix ranking and their discussions revealed that people of Thittuvilai village want a single rice variety with bold red grains, high grain and straw yields, and resistant to pest and diseases.

A matrix ranking was prepared for banana as it was done for rice (Figure 2). Findings revealed that farmers preferred the red banana variety because of its profitability. This variety is exported to Gulf countries. They wanted a red banana variety with less managerial and labour requirements, resistant to diseases and with low input requirement.

Conclusion

From the study, it is suggested to plant breeders to breed research projects to breed red rice and red banana varieties with the characteristics preferred by farmers. These findings were presented in a research planning workshop in August 1992. After this the University Authorities requested plant breeders of the Agricultural Research Station, Thirupathisaram in Kanyakumari district to take up research to evolve a suitable red rice variety. The research is in progress. We felt that the PRA method was found to be a quick and effective method to assess the felt needs of farmers.

Sl. No.	characters	ASD16	TKM9	LOCAL
1	yield	*** ** ***	*** ** **	*** * **
2	Grain Shedding	*** ** **	** * **	** * **
3	Duration	** * **	** * **	** * **
4	Straw Yield	** * **	** * **	** * **
5	Market Price	** * **	** * **	** * **
6	Colour	** * **	** * **	** * **
7	Disease resistance	** * **	** * **	** * **

Figure 1 Matrix ranking of three rice varieties, Thittuvilai.

Sl. No.	characters	Red	Nendran	Robusta	Palayam-kottai
1	Profit	*** ** **	*** ** **	*** ** **	*** ** **
2	Managertal requirement	*** ** **	*** ** **	*** ** **	*** ** **
3	Easy Marketability	*** ** **	*** ** **	*** ** **	*** ** **
4	Labour requirement	*** ** **	*** ** **	*** ** **	*** ** **
5	Disease resistance	*** ** **	*** ** **	*** ** **	*** ** **
6	Resource Allotment	*** ** **	*** ** **	*** ** **	*** ** **
7	Cost of Cultivation	*** ** **	*** ** **	*** ** **	*** ** **

Figure-2. Matrix ranking of banana varieties, Thittuvilai.

11. TIPS FOR TRAINERS

FROM:

IIED PART. INQUIRY TRAINERS GUIDE: CHAP 4 DRAFT ONLY

7. Symbolic Introductions

Objective

- To introduce the participants to each other
- To get participants talking to each other in sub-groups
- To get the sub-groups motivated by involving them immediately in a successful task
- To demonstrate a sense of belonging
- To show that you as a trainer want to learn from them also

Material

Objects lying around in or near the room that can be used as symbols. Does not need preparation.

Time

10-20 minutes, depending on the size of the group (5 minutes to find the object, 3 minutes introduction and explanation per group).

Procedure

1. Ask participants to form in groups of threes and to go outside to find something that they feel symbolises their country, region, organisation.
2. Ask them to bring that thing back in five minutes and put it on the same table.
3. Ask them to introduce themselves and to explain why they chose this thing as their symbol.

Comments

This exercise works well to encourage participants to open up and share feelings early in the workshop. The introductions are done through searching for and agreeing on a symbol. These symbol groups can be used for later exercises. If you are not familiar with the region or country, hearing about the symbols is a good introduction to understanding the local value system.

Source: Vella J. (). *Learning to Teach: Training of Trainers for Community Development*, Save the Children Federation.

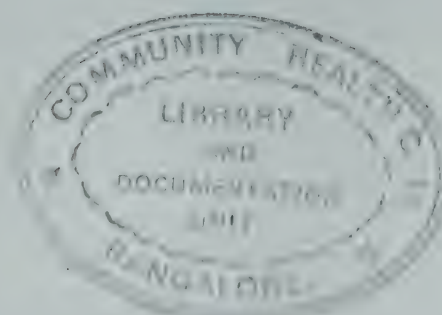


12. ENDNOTES

1. KEPAS (Kelompok Penelitian Agro-ekosistem) does a great deal of RRA training based on agro-ecosystems analysis. They have produced a number of good RRA reports in Indonesian and English, and some training materials in Indonesian. Those interested in obtaining information should write to: KEPAS, Badan Penelitian dan Pengembangan Pertanian, Jalan Merdeka 147, Bogor, Jawa Barat 16111, Indonesia.
2. The Sulawesi Regional Development Project has produced two draft manuals (in Indonesian) outlining how RRA may be used for basic data collection and target group identification. Final drafts should be ready soon. Anyone interested in obtaining information on the manuals can write to: Sulawesi Regional Development Project, University of Guelph, 620 Gordon Street, Guelph, Ontario N1G 2W1, Canada.
3. We received a very useful detailed report from the Farm and Resource Management Institute in the Philippines, on a PRA training workshop they held in November 1992. Volume I outlines the rationale, objectives, participants and activities of the first 3 days of classroom work. Volume II is a complete account of the field work conducted by the participants. Volume III is a compilation of hand-outs, visual aids and songs used throughout the workshop. FARMI hopes this report can be shared with other PRA users. It should inspire other PRA trainers. Write to: Ly Tung, FARMI, Visayas State College of Agriculture, Leyte 6521-A, Philippines.
4. The discussion on how "participatory" PRA is continues. Vanessa Tilstone sent us a copy of her dissertation *Community Participation in Research*. In it, she compares Participatory Action Research with PRA, in which she distinguishes between extractive and community-based interpretations of PRA. She can be contacted at: 1 Richmond Avenue, Finchfield, Wolverhampton, WV3 9JB, UK.
5. In the Annual Report of ActionAid Pakistan, an absorbing account is made of how PRA was used *"to provide initial insights into the area leading to suggestions for an ACTIONAID programme ... the primary objective had to be the development of the initial understanding between ACTIONAID and the communities"*. For more information write to: Richard Edwards, Actionaid Pakistan. GPO Box No. 2943, H. 28, St. 2, F-8/3, Islamabad, Pakistan.
6. In India, much of the pioneering and experimenting with PRA is continuing. The Activists for Social Alternatives (ASA) have sent us reports on three of their experiences in Tamil Nadu. One is on the use of PRA for buffer zone development programmes, the second reflects on whether it is possible to use PRA in a totally new area (the answer is yes), and the third describes a training experience for rangers and foresters. Write to: ASA, 19-B, Mallisahib Street, Tiruchirappalli - 620 008, Tamil Nadu, India.
7. The Gandhigram Rural Institute is a keen user of PRA within their Department of Applied Research. We have recently received two of their reports describing their experiences to date: *Participatory Rural Appraisal: GRI's Experience* by Dr.S.Kesavan, and *PRA by GRI: A Status Paper* by M.P.Boraian, Dr.N.Narayanasamy, and Dr.N.Markandan. Please write

to: Gandhigram Rural Institute, Department of Applied Research, Gandhigram - 624302, Dindigul Anna District, Tamil Nadu, India.

8. For those working with elderly people, a recent experience from HelpAge Kenya will be of interest. HelpAge Kenya held a workshop in January 1993 to assess the relevance of PRA for project work with elderly people. Everyone observed that elders participated with great enthusiasm. And for HelpAge *"the most important indicator of successful fieldwork was the fact that elders invited us back in the future."* Please write to: Mandy Heslop, HelpAge International, St.James's Walk, London EC1R 0BE, UK.
9. Two reports from the Philippines describe experiences in using RRA for data collection. Vennie Acebedo from the International Institute for Rural Reconstruction sent us a report called *A Diagnostic Survey in Layung Mabilog using Rapid Rural Systems Appraisal (RRSA)*. RRSA is based on different types of interviewing with a final community validation meeting. Please write to her at the IIRR, Silang, Cavite, Philippines.
10. RRA and PRA have been extensively used in agriculture and forestry but its use in coastal areas is still limited. One experience in this new field is documented in a report from Michael Pido: *RRA Application in Coastal Zone Planning Experiences and Lessons from Palawan, Philippines*. For more information please write to: M.D.Pido, ICLARM, MC P.O. Box 1501, Makati, Metro Manila 1299, Philippines.
11. Wenny Ho has written a methodological guide on extension in support of participation in Spanish. It deals with the process of participatory extension and key guidelines for a participatory extension system. She also discusses the role of the extension worker and the use of teaching materials. For more information write to: Wenny Ho, Koeriersdienst-Honduras, Postbus 20061, 2500 EB Den Haag, The Netherlands.
12. A very honest reflection about PRA is written by the Association for Rural Advancement. With nothing more than the RRA Notes to guide them, ARA used PRA, learning much in the process. *"This has been a very significant experience for us. We are just beginning to explore an exciting and important area: PRA. We are convinced that this approach is crucial in our country. Apartheid has devastated rural life."* Write to: Kamal Laldas Singh (Drought Monitor), Association for Rural Advancement, 170 Berg Street, Pietermaritzburg, South Africa.



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